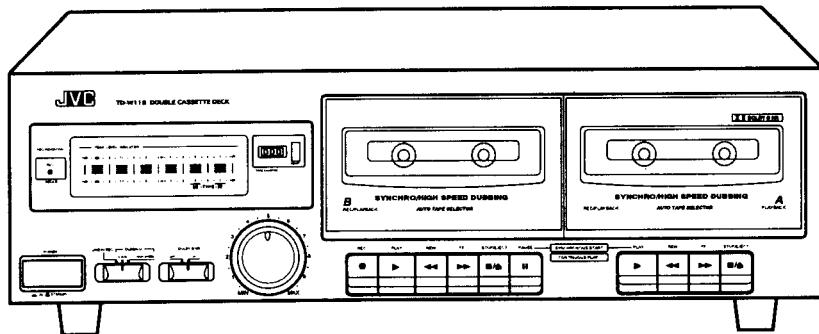


# JVC

## SERVICE MANUAL

### DOUBLE CASSETTE DECK

### TD-W118BK B/C/EN/G/J/U/UB



#### Area Suffix

B .....	U.K.
C .....	Canada
EN .....	North Europe
G .....	Germany
J .....	U.S.A.
U .....	Other Areas
UB .....	Hong Kong

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## ■ Safety Precautions

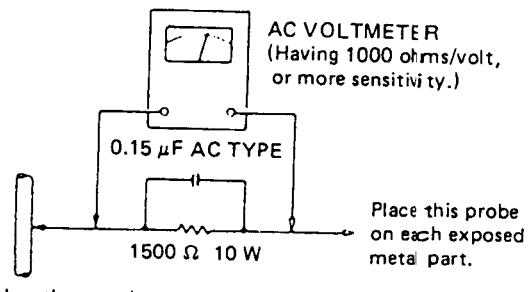
1. The design this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety — related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of service manual. Electrical components having such features are identified by shading and (  $\triangle$  ) on the schematic diagram and by (  $\triangle$  ) on the parts list in the service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
5. Leakage current check (Electrical shock hazard testing)

After re — assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. using a "Leakage current tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC(r.m.s.)

• Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 ohms 10W resistor paralleled by a  $0.15 \mu F$  AC type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC(r.m.s.). This corresponds to 0.5mA AC(r.m.s.).

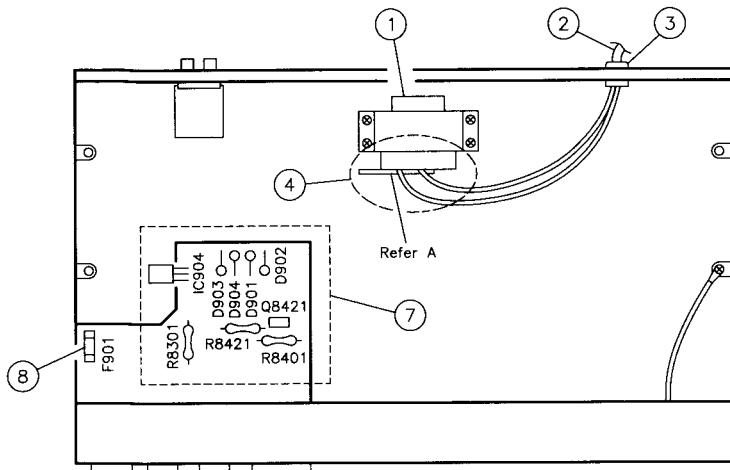


## ◆ Warning (UK only)

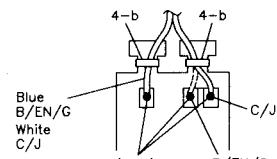
1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

## ◆ Important Management Points Regarding Safety

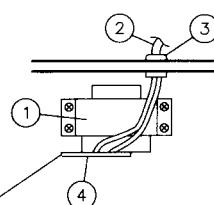
(Items Demanding Special Safety Precautions)



— A —



— U/UB Version —



1. Securely fix the power transformer while confirming its marking specified in the following.

Suffix	Marking	Description
J	KEL-54-001S1	UL approved No.
C	VTP54A2-051C	
B/EN/G	VTP54Z2-011C	
U/UB	VTP54G2-031C	

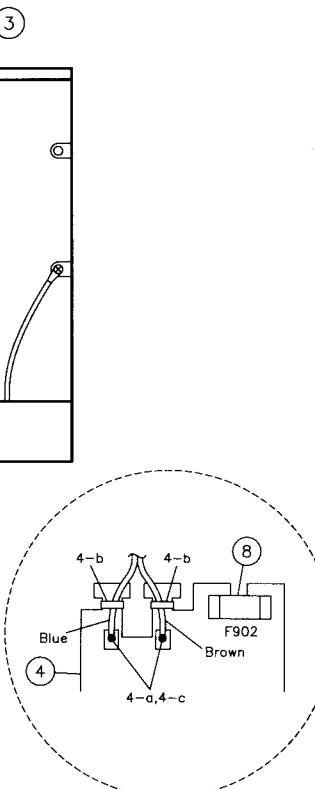
2. Power cord : Make sure of the following markings and inspect exterior scratch and damage.

	Power cord	Attachment plug
J	SPT-1	KP-10W or SD-008P
C	SPT-1	KP-10W or SD-008P
EN/G	△ VDE ▽	KP-419C or SE-1
B	BASEC BS6500	KP-610 3A
U/UB	△ VDE ▽	KP-8H

3. Install the cord bushing by the specified tool while confirming the marking. Bushing: NIFCO 2271 (C/J only)

### 4. Wiring terminal

- a) When installing the power cord, wind it around the terminal by the end before soldering.
- b) Arrange the wires while binding them nearby the terminal.
- c) The end of respective power cords is soldered in the air and the space from others must be 3.2 mm or more in the distance.



7. Since the following parts are heat generation ones, they must not contact with electrolytic capacitors, wires, etc.

- Following parts are inflammable, Make sure of their lift up condition for the purpose.
- Parts in box [ ] must be controlled.  
IC904, [D901], [D902], [D903], [D904], Q8421, R8301, R8402, [R8421].

8. All fuses must securely be connected. In B/EN/G/U/UB version, F901 must be specified by the rating of T800 mA shown on the surface as well as by the marking of ⑧, or in U/UB version, F902 must be specified by the rating of T200 mA shown on the surface as well as by the marking ⑧ or ⑨.

## TROUBLESHOOTING

What appears to be trouble is not always real trouble. Make sure first ...

- 1. Cassette cannot be loaded.**
  - Is the cassette positioned correctly?
- 2. When ► PLAY button is pressed, tape does not move.**
  - Has the ■ PAUSE button been pressed?
  - Is the tape too loosely wound?
- 3. When ► PLAY button is pressed, it does not remain engaged but is soon released.**
  - Is the tape entirely rewound?
- 4. Tape runs, but no sound is heard.**
  - Are all connections properly and securely made?
  - Is the MONITOR switch of the stereo amplifier set to the TAPE position?
  - Is the VOLUME control of the stereo amplifier set to MIN?
- 5. Sound quality is poor.**
  - Is the position of the DOLBY B NR switch the same for both recording and playback of the same tape?
  - Is the head section dirty?
  - Is the record/playback head magnetized?
  - Is the tape worn out?
- 6. The ● REC button cannot be pressed.**
  - Are the safety tabs of cassette tape broken?
  - Has the ► PLAY button of deck B been pressed?
- 7. Recording cannot be performed.**
  - Are all connections properly and securely made?
  - Is the head section dirty?
  - Is the DUBBING switch set to NORM or HIGH SPEED?
- 8. Previously recording is not completely erased.**
  - Is the erase head dirty?
- 9. Since tape speed is irregular, wow and flutter occurs.**
  - Is the pinch roller or capstan dirty?
  - Is the tape rewound too tight?
- 10. Recording from the LINE IN cannot be performed.**
  - Is the DUBBING switch set to LINE IN REC?

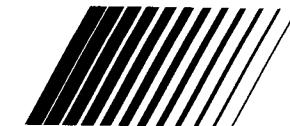
## SPECIFICATIONS

Type	: Double cassette deck
Track system	: 4-track, 2-channel
Tape speed	: 4.8 cm/sec (1-7/8 inch/sec) (Normal) 1.7 times than normal speed (High)
Frequency response	: (-20 dB recording) TYPE IV tape; 30 - 16,000 Hz 40 - 15,000 Hz (±3 dB) TYPE II tape; 30 - 16,000 Hz 40 - 15,000 Hz (±3 dB) TYPE I tape; 30 - 15,000 Hz 40 - 14,000 Hz (±3 dB)
S/N ratio	: 58 dB (S = 315 Hz, k3 = 3%, N = A-weighted, Type IV tape) The S/N is improved by 5 dB at 1 kHz and by 10 dB at above 5 kHz with DOLBY B NR on.
Wow and flutter	: 0.1% (WRMS), ±0.20% (DIN/IEC, PB)
Channel separation	: 40dB (1 kHz)
Crosstalk	: 60dB (1 kHz)
Harmonic distortion	: k3; 0.8% (Type IV tape, 315 Hz 0 VU)
Heads	: Deck A; METAPERM head for playback x 1 Deck B; METAPERM head for recording/playback x 1 2-gap ferrite head for erasure x 1
Motors	: Electric governed DC motor x 1
Fast forward/ Rewind time	: Approx. 120 sec. with C-60 cassette
Input terminals	: LINE IN (x 1 circuit)
Output terminals	: LINE OUT (x 1 circuit)
Power requirement	: B version: AC 230 V, 50 Hz J version: AC 120 V, 60 Hz
Power consumption	: With POWER switch ON; 10 W With POWER switch STANDBY; 1.3 W
Dimensions (W x H x D)	: 435 x 140 x 295 mm (17-3/16 x 5-9/16 x 11-5/8")
Weight	: 3.8 kg (8.4 lbs.)
Accessories	: Pin plug cord ..... 2

Design and specifications are subject to change without notice.

Area suffix	
B.....	U.K. J..... U.S.A.

# JVC



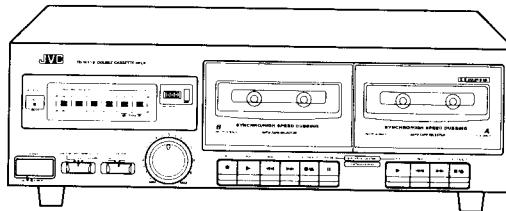
■ Instructions

TD-W118BK B/C/EN/G/J/U/UB

## DOUBLE CASSETTE DECK

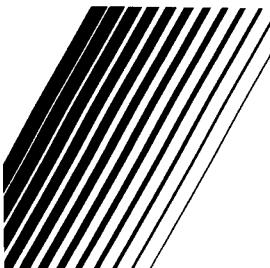
# TD-W118BK B/J

TD-W118  
DOUBLE CASSETTE DECK



## INSTRUCTIONS

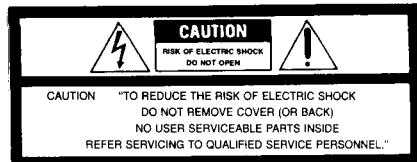
**JVC**  
VICTOR COMPANY OF JAPAN, LIMITED



For Customer Use:  
Enter below the Model No. and Serial No.  
which are located on the rear of the cabinet.  
Retain this information for future reference.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

#### WARNING:

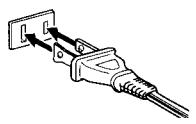
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

#### INFORMATION (FOR U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(For CANADA)  
CAUTION:  
TO PREVENT ELECTRIC SHOCK,  
MATCH WIDE BLADE OF PLUG TO  
WIDE SLOT FULLY INSERT.



(Pour CANADA)

ATTENTION:  
POUR EVITER LES CHOCS ELECTRIQUES, INSERER LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

Thank you for purchasing JVC product. Read this instruction book carefully before operating to be sure of getting optimum performance and longer service life from the unit.

#### IMPORTANT (In the United Kingdom)

Mains Supply (AC 230 V ~, 50 Hz only)

DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.

BE SURE to replace the fuse only with an identical approved type, as originally fitted and to replace the fuse cover.

If nonetheless the mains plug is cut off ensure to remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

DO NOT make any connection to the terminal which is marked with the letter E or by the safety earth symbol or coloured green or green-and-yellow.

The wires in the mains lead on this product are coloured in accordance with the following code:



Blue to N  
(Neutral) or Black  
Brown to L  
(Live) or Red

As these colours may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IF IN DOUBT-CONSULT A COMPETENT ELECTRICIAN.

#### WARNING (In the United Kingdom)

Pre-recorded tapes, records or discs should not be re-recorded without the consent of the owners of copyright in the sound recording and in any copyright musical or literary work embodied in that recording as this constitutes an infringement of copyright.

Please study this instruction manual carefully before starting to operate the unit, in order to use the unit correctly. We take no responsibility for any problems resulting from misuse of this unit by operating this equipment other than instructed in this manual.

#### FEATURES

1. Synchro start (normal-/high-speed) dubbing
2. Dolby B noise reduction system
3. 2-color 6-LED peak level indicator
4. Metal tape compatibility
5. Auto tape select mechanism (decks A and B)
6. Continuous playback
7. INPUT LEVEL control
8. Full auto stop

\* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

\* "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

#### CAUTIONS

##### 1. Prevention of Electric Shocks, Fire Hazards and Damage

- 1) Even when the POWER switch is set to STANDBY, a very small current will flow. To save power and for safety when not using the unit for an extended period of time, disconnect the power cord from the household AC outlet.
- 2) Do not handle the power cord with wet hands.
- 3) When unplugging from the wall outlet, always grasp and pull the plug, not the power cord.
- 4) Consult your nearest dealer when damage, disconnection, or contact failure is found with the cord.
- 5) Do not bend the cord sharply, or pull or twist it.
- 6) Do not modify the power cord in any manner.
- 7) Do not remove screws to disassemble the unit and do not touch anything inside the unit.
- 8) AC power cord (For U.S.A. version only) The AC power cord of this unit has certain one-way direction connections to prevent electric shock. Refer to the illustration for correct connection. (Fig. 1)

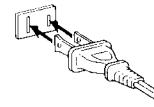


Fig. 1

- 9) Do not insert any metallic objects into the unit.
- 10) Unplug the power cord when there is a possibility of lightning.

- 11) If water gets inside the unit, unplug the power cord from the outlet and consult your dealer.
- 12) Do not block the ventilation holes of the unit so that heat can escape. Do not install the unit in a badly ventilated place.
- 13) Be sure to unplug the power cord from the outlet when going out or when the unit is not in use for an extended period of time.

##### 2. Installation

- 1) Avoid placing the unit on or adjacent to an amplifier, to prevent hum from being produced by some types of amplifiers. Move the unit to a place not affected by the amplifier. Keep the unit as far as possible from a TV set.
- 2) Avoid installing the unit in a location subject to ambient temperatures exceeding 40°C (104°F) (e.g. direct sunlight, near heaters, etc.) or less than 0°C (32°F), excessive humidity, dust or vibrations.
- 3) If this set is moved suddenly from a cold place (0°C) to a warm place, it may not function properly because of moisture generated inside the unit. The unit will function properly 30 minutes after being moved.

##### 3. Cleaning the cabinet.

Never use benzine or thinner for cabinet cleaning as they may damage the surface finish.

##### 4. Cassette tape

- 1) Loose tape may become tangled in the tape transport mechanism. Remove slack by winding the tape with a pencil. (Fig. 2)

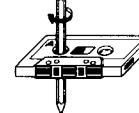


Fig. 2

Turn the pencil to tighten the tape.

- 2) The use of C-120 (120 minutes turn around) or thinner tape is not recommended, since characteristic deterioration may occur.
- 3) To prevent recordings from being erased accidentally, remove the tab(s) with a screwdriver. Reseal the slots with adhesive tape to erase and re-record after the tabs have been broken off.

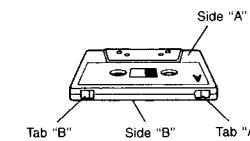


Fig. 3

- 4) Do not store cassette tapes where there is a magnetic field (e.g. near a TV, etc.) or in a place subject to high temperatures or humidity.

##### 5. Automatic tape select mechanism (decks A and B)

This deck has an Automatic Tape Select mechanism which distinguishes between different types of tape from holes in the cassette. After the type of tape has been detected, bias and equalization are set to be suitable for the tape.

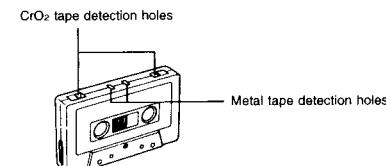
##### \* Cassettes with detection holes:

Metal tape (EQ: 70μs) ..... Type IV  
CrO<sub>2</sub> (chrome) tape (EQ: 70μs) ..... Type II

##### \* Cassettes without detection holes:

Normal tape (EQ: 120μs) ..... Type I

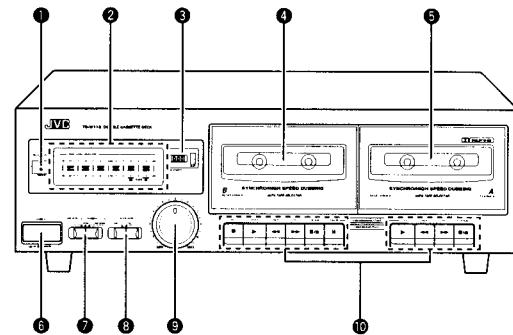
Some earlier types of metal and CrO<sub>2</sub> (chrome) tapes may not be provided with the detection holes. Avoid using such tapes, since correct equalization characteristics cannot be obtained. Also do not use ferrichrome tapes whose characteristics do not match this unit.



##### 6. Other

When the POWER switch is turned ON or off (STANDBY) with the deck set to the playback or recording mode, noise may be generated. Before turning the POWER switch ON or off (STANDBY), confirm that the ■/■ STOP/EJECT button has been pressed.

## NAMES OF PARTS AND THEIR FUNCTIONS



### ① REC indicator

### ② PEAK LEVEL INDICATOR

These indicate the recording level during recording and output level during playback.

The LED indication varies with the signal strength during recording and playback.

#### Note:

0 dB : IEC (DIN) STANDARD LEVEL (250 nWb/m)

0 VU : Signal level at 160 nWb/m

### ③ TAPE COUNTER and RESET button (deck B)

### ④ Cassette holder (deck B)

### ⑤ Cassette holder (deck A)

### ⑥ POWER switch

### ⑦ DUBBING switch

LINE IN REC : Set to this position when recording from the LINE IN input.

NORM SPEED : Set to this position for normal-speed dubbing.

HIGH SPEED : Set to this position for high-speed dubbing.

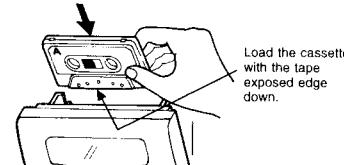
## CASSETTE LOADING

1. Press the **■/△ STOP/EJECT** button to open the cassette holder.
2. Load a cassette as shown.
3. Press the cassette holder to close it.

Be sure to obtain the click sound to close the holder securely.

#### Note:

\* If the power is switched off (STANDBY) while the tape is moving, you might not be able to remove the cassette. If this happens, switch the power on again before attempting to remove the cassette.



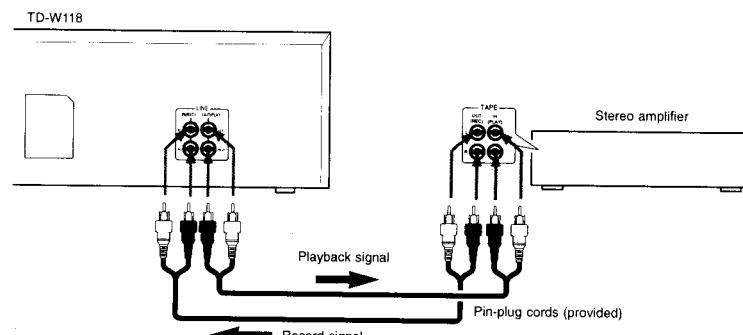
## CONNECTIONS

• Do not switch the power on until all the connections are completed.

• Insert the plugs firmly, or poor contact will result, causing noise.

• When the pin-plug cords are employed, always connect the white plug to the left channel terminal. This helps to avoid reversed connections.

### Connection to a stereo amplifier



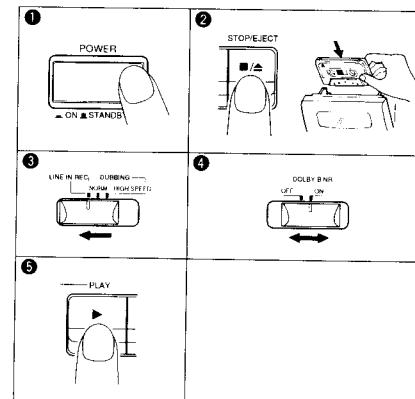
#### Note:

When installing the deck, be sure to install at a distance from your amplifier. If they are stacked, noise (hum) may occur.

## PLAYBACK

### Playback of deck A

Operate in the order of the numbers in the illustration.



### ① Press the POWER switch to set to ON (—).

### ② Insert a prerecorded tape into deck A.

### ③ Set the DUBBING switch to LINE IN REC.

### ④ Set the DOLBY B NR switch to the same position as when the tape was recorded.

### ⑤ Press the ▶ PLAY button of deck A to start playback.

### Playback of deck B

Perform steps ② to ⑤ of the above procedure for deck B.

### Continuous play

Load cassettes in both decks and press the ▶ PLAY button of deck A, then press the ▶ PLAY and ■ PAUSE buttons of deck B. When deck A enters the auto stop mode, the ■ PAUSE button of deck B is automatically released and deck B begins playback.

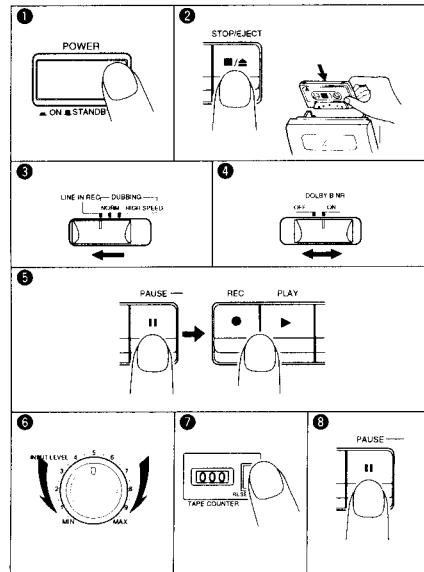
#### Notes:

1. Use tapes recorded using the same NR mode in decks A and B.
2. Be sure to start from deck A when performing the continuous play.

## RECORDING

### Deck B only

Operate in the order of the numbers in the illustration.



- 1 Press the POWER switch to set to ON ( )
- 2 Load a cassette for recording.
- 3 Set the DUBBING switch to LINE IN REC.
- 4 Set the DOLBY B NR switch as required.
- 5 Press the ■ PAUSE button then ● REC and ▶ PLAY buttons simultaneously (record-pause mode).
- 6 Adjust the recording level.
- 7 Press to "000".
- 8 Press again to release the pause mode and to start recording.

**Do not operate deck A during recording. In this case, noise may occur and the tape speed may vary.**

It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

### Erasing

When recording on a prerecorded tape, the previous recording is automatically erased and only the new program is recorded on the tape.

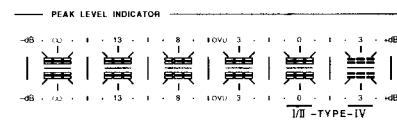
### To erase a tape without making a new recording...

In step ④ "RECORDING", set the DOLBY B NR switch to OFF and, in step ③, set the INPUT LEVEL control to MIN.

### Recording level adjustment

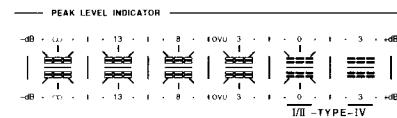
Adjust the recording level while observing the PEAK LEVEL INDICATOR indication.

For example:  
With TYPE IV tape



Because of metal tape's higher saturation level, it is OK that "+3" lights occasionally.

With TYPE I or TYPE II tape



It is OK that "+0" lights occasionally.

- When the recording level is too low, the hiss noise inherent in the tape will be conspicuous.
- When the recording level is too high, exceeding the saturation level, the recording will contain crackling noise and will be distorted.

It is best to adjust so that the maximum sound level of the source to be recorded reaches the very limit of the saturation level of the tape to be used. The best level varies depending on the type of music and type of tape so it is better to make test recordings, using FM music, records, etc.

### DOLBY B NR switch

- The tapes recorded using NR must be played back through the corresponding circuit.

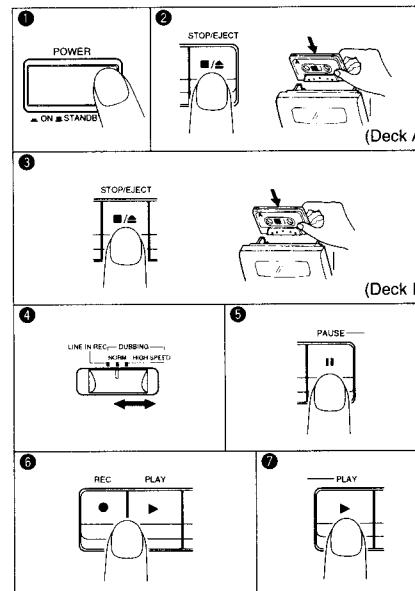
### Notes:

1. Proper sound quality will not be obtained if different NR switch settings are used during recording and playback.
2. When recording or playing back a tape with the NR switch set to ON, be sure to set the DUBBING switch to LINE IN REC.

## DUBBING

### Synchro dubbing

Operate in the order of the numbers in the illustration.



- 1 Press the POWER switch to set to ON ( )
- 2 Insert a prerecorded tape into deck A.
- 3 Insert the tape to be recorded into deck B.
- 4 Set the DUBBING switch to NORM SPEED when performing normal-speed dubbing and to HIGH SPEED when performing high-speed dubbing.
- 5 Press the ■ PAUSE button.
- 6 Press the ● REC and ▶ PLAY buttons simultaneously (Deck B).
- 7 Press the ▶ PLAY button (Deck A). Dubbing will start.

### Note when stopping deck A during dubbing

Set deck B to record-pause mode and press the ■ STOP/EJECT button of deck A. Since the ■ PAUSE button of deck B will be released, causing deck B to return to record mode, press the ■ PAUSE button again.

### Dubbing and DOLBY B NR switch

During dubbing, the same NR mode selected for the playback cassette is applied to the recording cassette, regardless of the position of the NR switch.

### Input level

Recording is performed at the same level as the playback tape during dubbing regardless of the position of the INPUT LEVEL control.

### Notes at dubbing

1. Normal-speed dubbing is recommended to obtain good sound quality.
2. Television receivers placed close to the deck may cause interference on the recorded signal when the deck is used in the high-speed dubbing mode. If this happens, either turn off the television receiver or use the normal-speed dubbing mode.

## MAINTENANCE

### The importance of cleaning

When the tape is moving, magnetic powder and dust naturally accumulate on the heads, capstan and pinch roller.

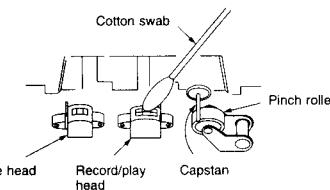
When they become too dirty,

- tone quality deteriorates.
- the output sound level drops.
- the previous sound is not erased satisfactorily.
- recordings are not satisfactory.

Because of this, clean the heads, etc. every 10 hours of use so that optimum recordings will be made.

### Cleaning the heads, pinch roller and capstan

Example: Deck B



Wipe the heads, the capstan, etc. with a cotton swab with its tip dipped in alcohol.

For effective cleaning, use a cleaning kit available from your audio store. After cleaning, be sure that the cleaning fluid has completely dried before loading a cassette.

### Demagnetizing the heads

Magnetic objects brought close to the head or using the deck for a long period of time, results in magnetization of the head, thus noise occurs. When the noise is excessive, high frequencies on the recorded tape may be erased.

Demagnetize the heads and other metal parts that come into contact with the tape every 20-30 hours of use with a head demagnetizer (available from your audio store).

Regarding the use of a demagnetizer, see its instructions.

## 1 Location of Main Parts

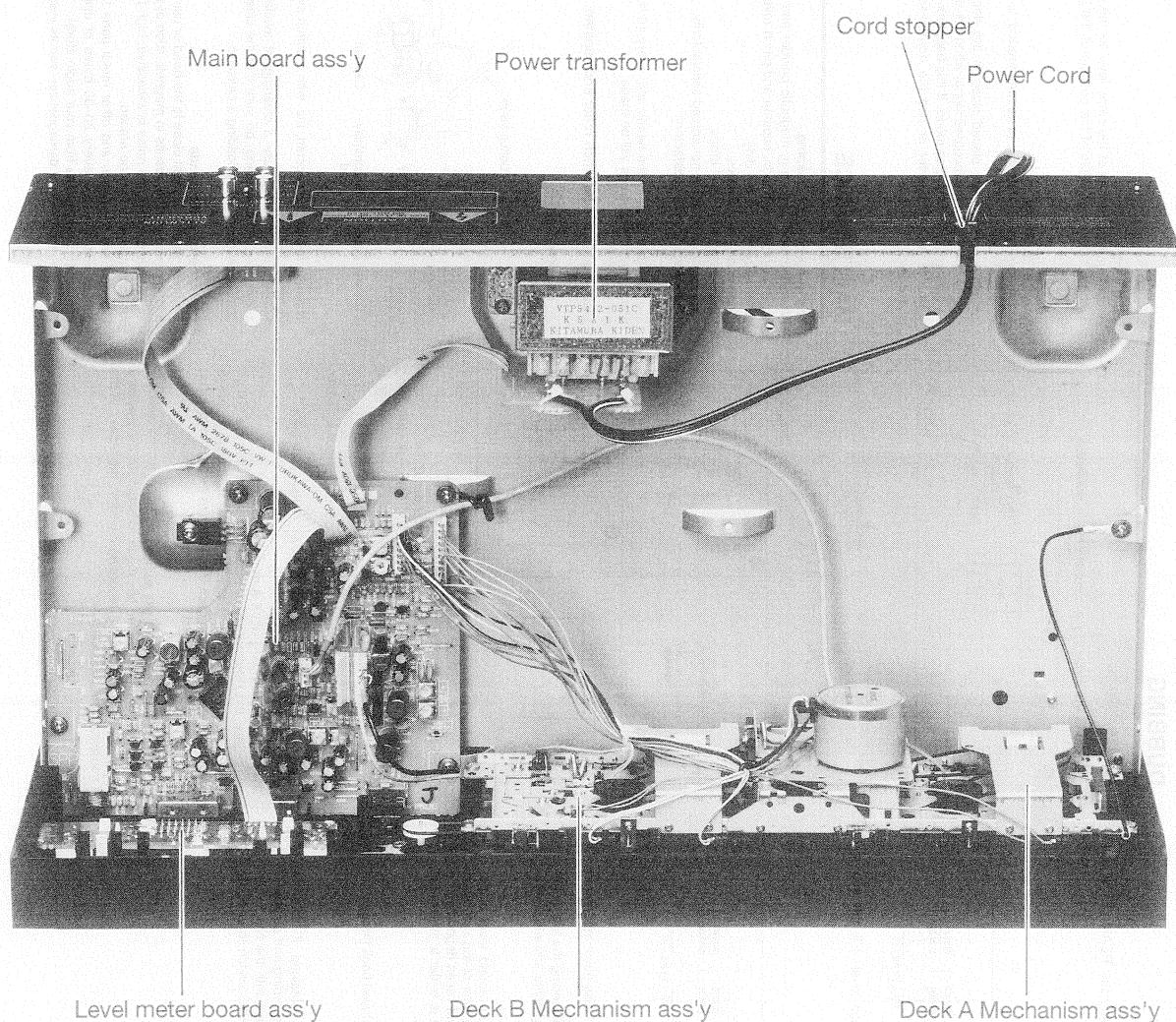


Fig. 1-1

## 2 Removal of Main Parts

### ■ Enclosure Section

#### ◆ Top cover (Fig. 2 - 1)

1. Remove four screws ① retaining the top cover from both side.
2. Remove two screws ② retaining the top cover from the back side.
3. To remove the top cover, slide in direction of arrow and lift away (refer to Fig. 2 - 1).

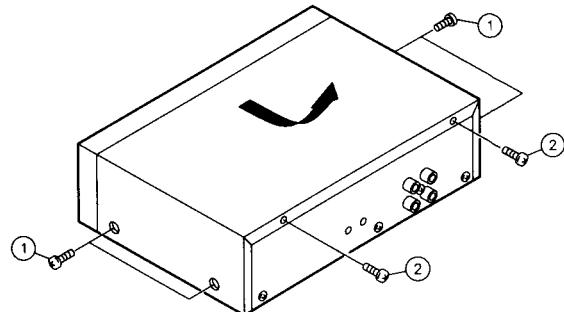


Fig. 2 - 1

#### ◆ Front panel assembly (Fig. 2 - 2, 2 - 3, 2 - 4)

1. Remove the top cover as described in above.
2. Remove three screws ③ retaining the front panel ass'y from bottom side.
3. Remove the input volume knob ④ from the front panel ass'y.
4. Remove the rec/dubbing switch knob and dolby NR switch knob ⑤ from the front panel ass'y.
5. Remove one screw ⑥ and one GND wire.
6. Release the level meter board ass'y from four pawls ⑦ on the board and pull it forward.
7. Disconnect all connectors between the mechanism ass'y, front panel ass'y and the main board ass'y.

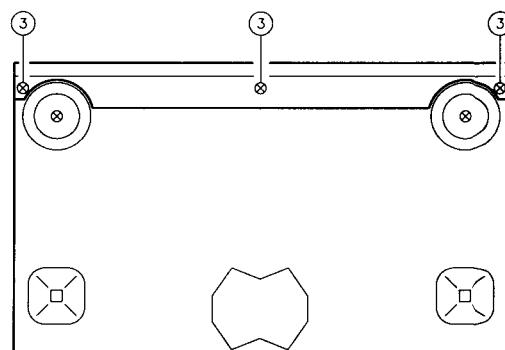
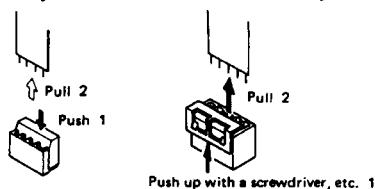


Fig. 2 - 2



#### ◆ Mechanism assembly

★ Although the mechanism assembly can be removed without detaching the front panel ass'y, it is recommended to detach the front panel ass'y to do the work with ease.

1. Remove the counter belt ⑧ from the tape counter.

(Fig. 2 - 4)

2. Remove six screws ⑨ retaining the mechanism ass'y.

(Fig. 2 - 4)

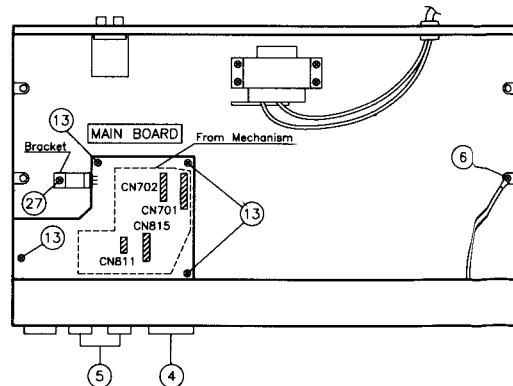


Fig. 2 - 3

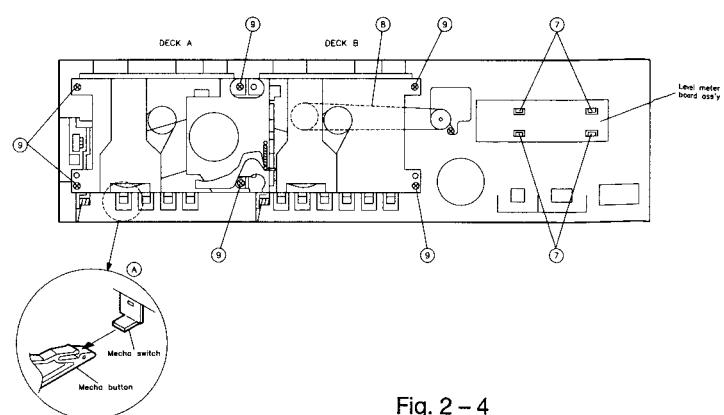


Fig. 2 - 4

◆ **Cassette holder ass'y** (Fig. 2 – 5, 2 – 6, 2 – 7)

1. Remove the mechanism ass'y as described in above.
2. Remove the two damper ass'y ⑩ (for easy reassembling work). Insert an originally (-) screwdriver or the like in to the gap between the damper and the front panel to disengage the pawl, and draw the damper ass'y outwards.
3. Remove the two eject spring ⑪ from the cassette holder ass'y and remove the two cassette holder ass'y from front panel ass'y.

**NOTE:** For reassemble the eject spring, refer to Fig. 2 – 7.

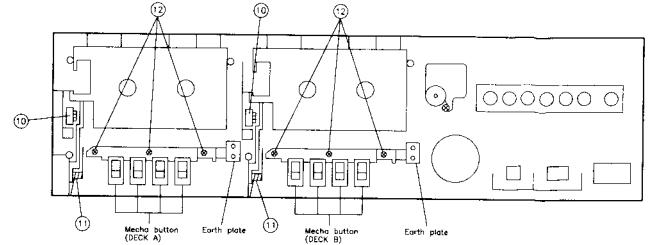


Fig. 2 – 5

◆ **Mecha button ass'y** (Fig. 2 – 5)

1. Remove the six screws ⑫ retaining the mecha button ass'y of deck A and B.
2. Remove two earth plate and mecha button ass'y of deck A and B.

How to remove damper

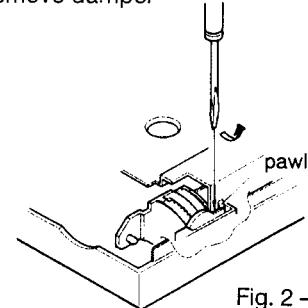


Fig. 2 – 6

◆ **Main board ass'y** (Fig. 2 – 3)

1. Remove one screw ⑬ retaining the bracket.
2. Remove four screws ⑭ retaining the board.
3. Disconnect CN901 from the power trans board ass'y.
4. Unsolder the FW851 from the line IN/OUT board ass'y.
5. Unsolder the FW852 from the level meter board ass'y.

● **Reassembling procedure of the front panel ass'y**

1. Attach the level meter board ass'y to the panel with four pawls.
2. Attach the cassette holder ass'y to the front panel ass'y.
3. Engage the eject spring properly.
4. Install the damper. (Push the pawl side last to engage it.)
5. Attach the mecha button ass'y to the front panel with six screws and two earth plate.
6. Attach the mechanism ass'y to the panel with six screws.

**NOTE:** For reassemble the mecha button ass'y to the mecha switch ass'y on the mechanism ass'y, insert the edge of mecha switch to the mecha button as shown in ⑮ on Fig. 2 – 4.

7. Attach the counter belt to the tape counter.
8. Insert the input volume knob, rec/dubbing switch knob and dolby NR switch knob to the front panel.

Engage the eject spring in order to ①, ② and ③

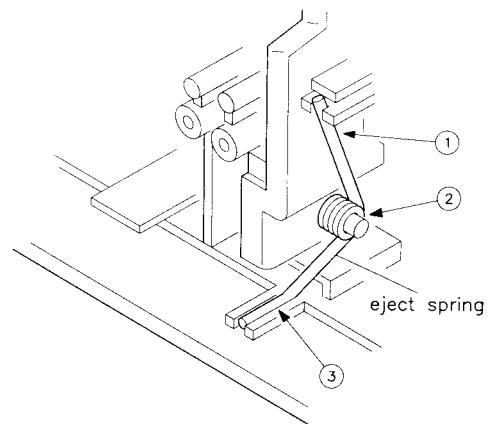


Fig. 2 – 7

## ■ Mechanism Section

### ◆ PB head and REC/PB head (deck A and deck B)

(Fig. 2 – 8)

1. Remove one screw ⑯ retaining the right side of the head.
2. Loosen the screw ⑯ and draw out the head.

### ◆ Dummy head and FE head (deck A and deck B)

(Fig. 2 – 8)

1. Remove two screws ⑮ retaining the dummy head and FE head.

### ◆ Pinch roller ass'y (Fig. 2 – 8)

1. Release two springs ⑯ and ⑰.
2. Pull out the pinch roller ass'y upward.

### ◆ Supply reel disk ass'y (Fig. 2 – 8)

1. Pull out the supply reel disk ass'y upward.

### ◆ Take up reel disk ass'y (Fig. 2 – 8)

1. Remove sensing lever ⑯ upward.
2. Pull out the take up reel disk ass'y upward.

### ◆ Flywheel ass'y (Fig. 2 – 8, 2 – 9)

1. Remove four screws ⑯ retaining FL retainer.
2. Remove RF belt ⑯ from the flywheel ass'y and main belt ⑯.
3. Remove one washer ⑯.

### ◆ Motor ass'y (Fig. 2 – 9)

1. Remove one screw ⑯ retaining P. kick lever (B).
2. Remove one screw ⑯ retaining P. kick lever and remove spring ⑯.
3. Remove three screws ⑯.

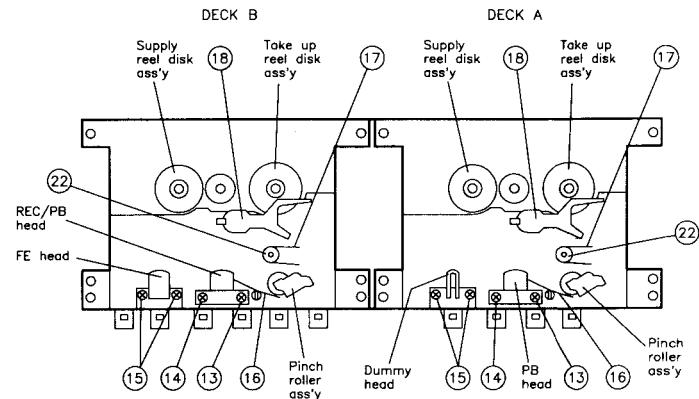


Fig. 2 – 8

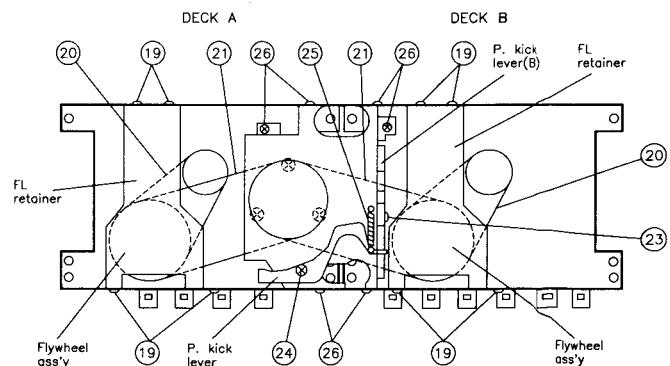


Fig. 2 – 9

### 3 Main Adjustment

#### ◆ Measuring Instruments required for adjustment

- (1) Low – frequency oscillator(oscillation frequency 50Hz – 20kHz, 0dB output with 600 Ω impedance )
- (2) Attenuator(600 Ω impedance)
- (3) Electronic voltmeter
- (4) Standard tapes  
VT712 or VTT712 (3 kHz tape speed, wow and flutter measurement)  
VT727 or VTT727 (400 Hz) (DOLBY standard level)  
TMT735 (1 k, 12.5 k), VT739 or VTT739 (63, 1 k, 10 k) (play back frequency)  
VT705 or VTT704 (12.5 kHz) (azimuth)  
TMT6447, TM6448 (music scan)
- (5) Recording reference tapes  
AC-225 (Normal), AC-514 (High), AC-713 (Metal)
- (6) 600 Ω resistors (for attenuator matching)
- (7) Distortion meter (bandpass filter)
- (8) Torque gauge (cassette) for CTG-N, TW2111, TW2231 and TW2241, mechanism adjustments

- (9) Wow & flutter gauge
- (10) Frequency counter gauge
- (11) M300 gauge
- (12) Band pass filter (1 kHz)

#### ◆ Power supply voltage

Set the line voltage selector switch to 240V/ 230V/ 220V/ 127V/ 120V/ 110V according to your local voltage.

AC230V, 50/60Hz : B/EN/G version

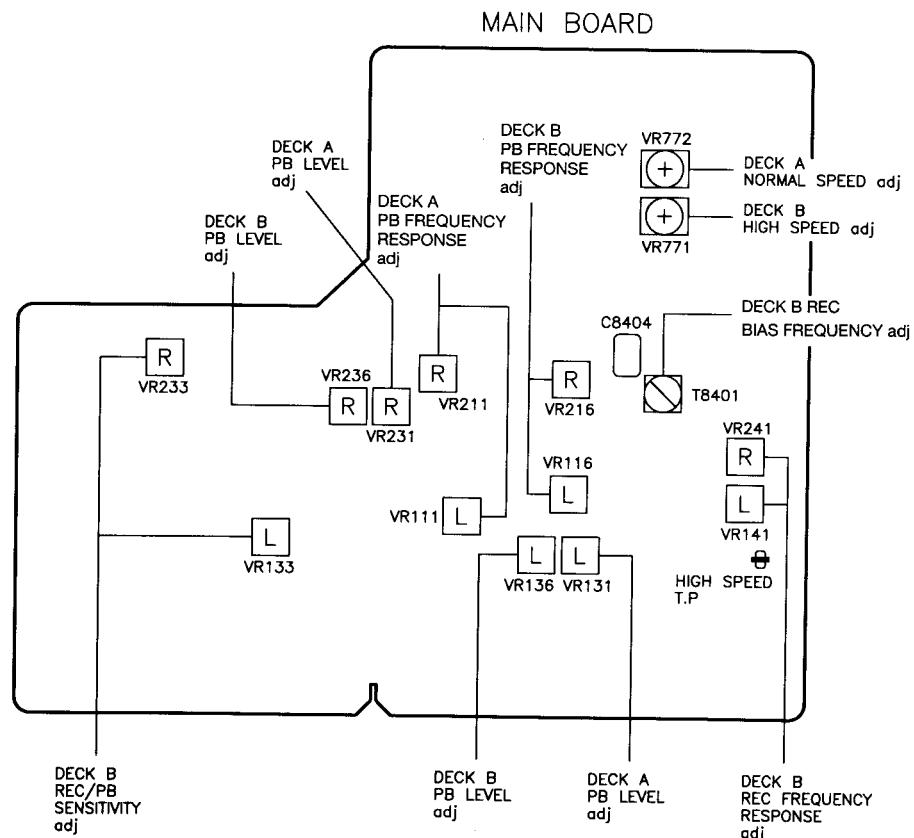
AC120V, 60Hz : C/J version

AC230/127/110V, 50/60Hz: U/UB version

- (13) Standard position of the switch and volume knob  
Switches and volume knobs Setting position

INPUT LEVEL	:	MAXIMUM
DOLBY NR	:	OFF
REC/DUBBING	:	LINE

#### ◆ Location of Adjustment



## ◆ Mechanism Adjustment

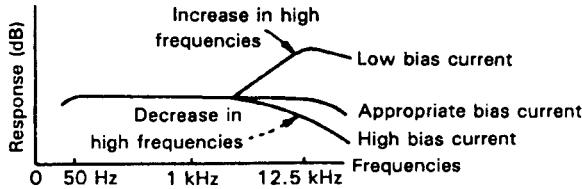
0dBs = 0.775V

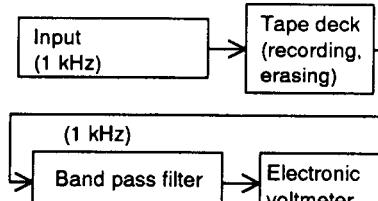
Item	Conditions	Adjustment and Confirmation	Standad value	Adjust point
Adjusting Head azimuth	Test tape: VT705 (12.5 kHz)	<ol style="list-style-type: none"> <li>1. Connect an electronic voltmeter to the LINE OUT terminals.</li> <li>2. Play back the VT705 (12.5 kHz) test tape.</li> <li>3. Adjust the head angle with the screw (A) until the reading of the electronic voltmeter becomes maximum for both channels (phase difference must be "0".)</li> <li>4. Confirm that different play back level of 12.5 kHz recorded tape by deck B between deck A and B, should be within 2 dB.</li> <li>5. After adjusting, apply lock paint on the screw (A).</li> </ol>	Maximum Deck A, B	Screws (A)
Adjusting Tape speed (motor speed)	<p>1. After adjustment of normal speed, then adjust high speed.</p> <p>2. For high speed adjustment, set the deck for play mode and shortcircuit between HIGH SPEED TP and GND.</p> <p>3. Do not do anything while HIGH SPEED TP and GND are short circuited.</p> <p>Test tape: VT712 (3 kHz)</p>	<ol style="list-style-type: none"> <li>1. Connect a frequency counter to the LINEOUT terminals.</li> <li>2. Perform normal speed adjustment first, and then do high speed adjustment.</li> <li>3. Play back the VT712 test tape.</li> <li>4. Adjust for normal speed (Deck [A]) At deck [A], adjust VR772 for normal speed at 3010Hz.</li> <li>5. Adjust for high speed (Deck [B]) After adjustment of normal speed, At deck [B], adjust VR771 for high speed at 5100Hz.</li> <li>6. After adjusting, play back the VT712 test tape, confirm that the normal speed is <math>3000 \pm 60</math>Hz and high speed is <math>5100 \pm 100</math>Hz for both decks A and B.</li> </ol>	<p>Normal speed: Deck [A]: 3010±10Hz High speed: Deck [B]: 5100±15Hz</p>	<p>Deck [A] : Normal;VR772</p> <p>Deck [B] : High;VR771</p>
Checking wow and flutter	Test tape: VT712 (3 kHz)	Connect a wow and flutter meter to LINE OUT terminals. Play back the VT712 test tape. Check to see if the reading of the meter is less than 0.17% (WRMS).	less than 0.17% (WRMS)	
Checking play back torque	Torque gauge TW2111(FWD)	Employ a torque testing cassette tape TW2111 (FWD) for the checking, or remove the cassette cover and use a torque gauge.	30 – 75 g · cm	
Checking fast forward/rewind torque	Torque gauge TW2231 (FF) TW2241 (REW)	Measure the torque in the fast forward mode in the same manner as in the above. Test cassette: TW2231 (FF) TW2241 (REW)	55 – 200 g · cm	

## ◆ Electrical Adjustment Procedure

Item	Check and Adjustment			
			Input signal (Frequency, level)	Output raise value,deviation value
1 Cheking DOLBY circuit (Rec.mode) (BIAS-CUT)	Signal input: LINE IN Cal.level: 400Hz, - 8dBs Output terminal TP : IC831 ⑯, ⑯ Dolby NR switch : ON	DOLBY B (Rec)	1kHz, cal. - 40dB	+5.7 dB ± 2 dB
			5kHz, Cal. - 20dB	+3.5dB ± 1.5 dB
			1kHz, Cal.	0 dB ± 0.5 dB

Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
*2 Play back level adjustment	Test tape VT727: 400 Hz	Play back VT727 then confirm that the level at LINE OUT is -4.5 dBs ± 0.5 dB. Adjust VR136, VR236 (deck <b>B</b> ) and VR131, VR231 (deck <b>A</b> ) so that LINE OUT level becomes -4.5dBs. Difference between Lch and Rch must be less than 1 dB at LINE OUT.	LINE OUT -4.5 dBs ± 1dB	Deck <b>B</b> L : VR136 R : VR236 Deck <b>A</b> L : VR131 R : VR231
*3 Playback frequency response adjustment	Test tape TMT735:1kHz/12.5kHz VT739: 1 kHz/63 Hz	Play back TMT735 test tape, and adjust VR116, VR216 (deck <b>B</b> ) and VR111, VR211 (deck <b>A</b> ) so that deviation of 12.5 kHz to that of 1 kHz is 1 ± 0.5 dB (deck <b>A</b> ) and 0 ± 0.5 dB (deck <b>B</b> ). Then, play back VT739 test tape to confirm that deviation of 63 Hz to 1 kHz is +2 ± 3 dB.	with 12.5kHz as reference, +1 ± 0.5 dB (deck <b>A</b> ) and 0 ± 0.5 dB (deck <b>B</b> ) at 1 kHz 63 Hz (check): +2 ± 3 dB	Deck <b>B</b> L: VR116 R: VR216 Deck <b>A</b> L: VR111 R: VR211
*4 Bias frequency adjustment	Tape : Metal Mode: REC Frequency counter Input impedance : more than 1MΩ	Connect frequency counter to the lead clipping body of C8404 and adjust T8401 so that the counter reads 95kHz.	95kHz ± 1 kHz	Deck <b>B</b> T8401
5 Input sensitivity level check		1. Supply a 1kHz signal to the LINE IN terminals at -20dBs, confirm that LINE OUT level is -8dBs. 2. Confirm that difference level between left and right within 2dB at LINE IN terminals.	LINE IN : -20dBs ± 2 dB	

Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
*6 REC/PB frequency response adjustment	LINE INPUT level; Ref. -20 dB (-40 dBs $\pm$ 2 dB) NR switch : OFF Test tape : Normal	Record the 1.25 kHz and 12.5 kHz signals at the level of -20 dB (20 dB lower than the reference level).  Playing back the recorded signals, adjust VR141 and VR241 so that the level of the 12.5 kHz signal is $0.5 \pm 0.5$ dB to the level of the 1.25 kHz.	12.5 kHz level: $0.5 \pm 0.5$ dB higher than the 1 kHz level.	Deck B L : VR141 R : VR241
				
*7 Recording/ Playback sensitivity adjustment	NR switch : OFF Test tape : Normal LINE INPUT level; Ref. -20 dB (-40 dBs $\pm$ 2 dB)	1) Apply 400 Hz signal to the LINE IN terminals, record 400 Hz signal at Ref. -20 dB input for both L and R channels at a normal tape.  2) Play back the recorded part, and adjust the recording level controls so that LINE OUT terminal level becomes -27.5 dBs. Then adjust VR133 and VR233 so that LINE OUT terminal level becomes -27.5 dBs.	Normal: $-27.5 \pm 0.5$ dBs  High Metal: $-27.5 \pm 1$ dBs (Difference between L and R within 0.5 dB)	Deck B L : VR133 R : VR233
8 Maximum out put check		Supply 1 kHz signal to the LINE IN terminal in the Rec. monitoring mode, and read non-clipped signal level at the LINE IN terminal.	LINE OUT: more than 0dBs	
9 Checking record/ playback distortion		1) Record a 1 kHz, -20 dBs signal to LINE IN terminals.  2) Play back the recorded part, Check the output with a distortion meter to see if the value conforms to the standard value.	Normal: Less than 2%  High Metal: Less than 3%	
10 Checking signal to noise ratio recording playback		1) Record a 1 kHz, -20 dBs signal, Stop the input by disconnecting from the terminal to perform non-signal recording.  2) Play back the recorded part, Measure the -8 dBs recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value.	Normal, More than 40 dB  High Metal: More than 41 dB	

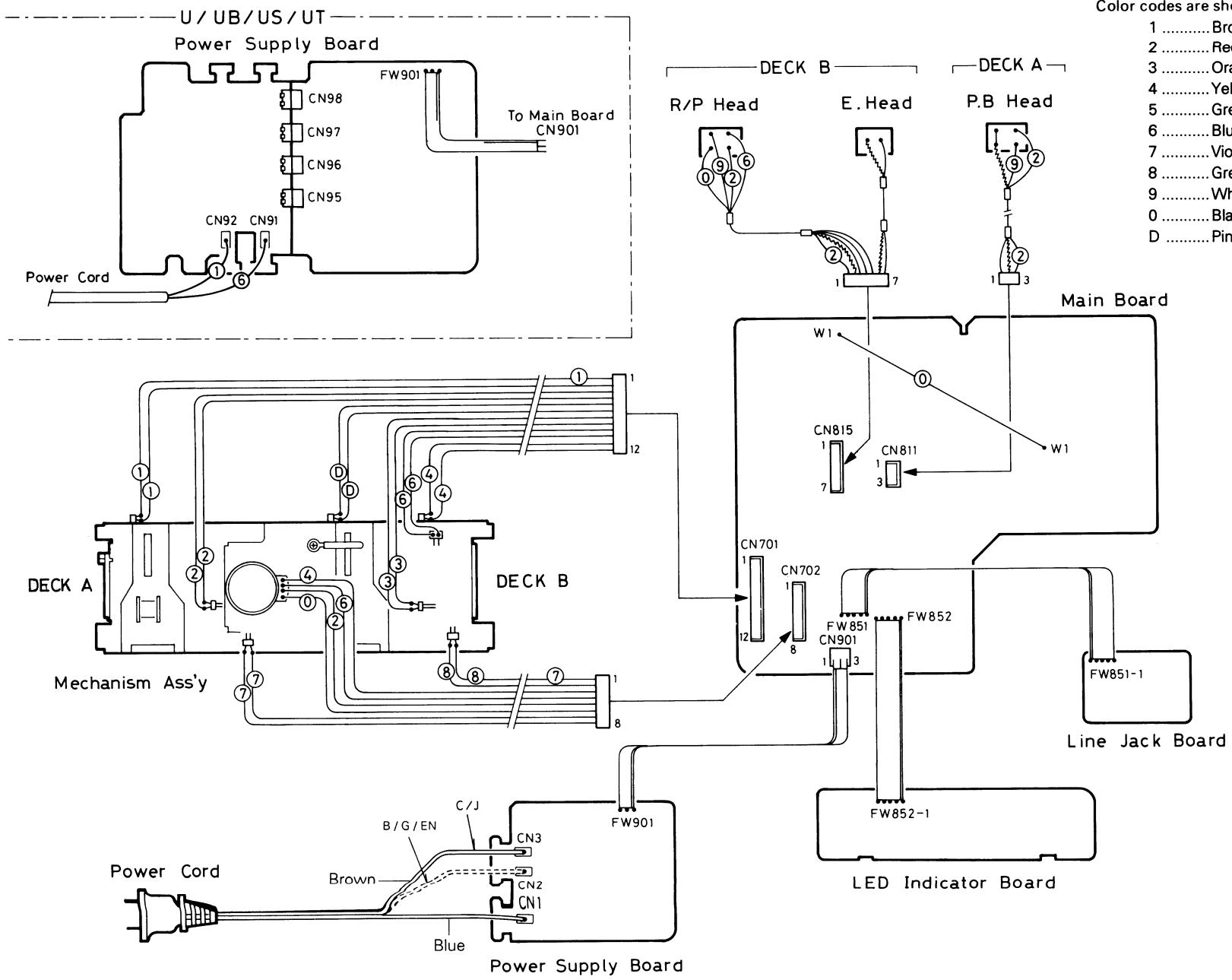
Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
11 Checking erasing coefficient		<p>1) Apply a 400 Hz, Ref. +20 dB signal to the LINE IN terminals.</p> <p>2) Perform recording with the signal enhanced by 20 dB.</p> <p>3) Erase a part of the recording.</p> <p>4) Measure the output difference between the erased part and non- erased part to compare with an electronic voltmeter.</p> <p>For the measurement using a metal tape, connect a band pass filter between the deck and the electronic voltmeter.</p>  <pre> graph LR     Input[Input (1 kHz)] --&gt; TapeDeck[Tape deck (recording, erasing)]     TapeDeck --&gt; Output[Output (1 kHz)]     Output --&gt; BPF[Band pass filter]     BPF --&gt; Voltmeter[Electronic voltmeter]   </pre>	More than 55 dB	

## 4 Wiring Connections

Color codes are shown below.

1 ..... Brown  
 2 ..... Red  
 3 ..... Orange  
 4 ..... Yellow  
 5 ..... Green  
 6 ..... Blue  
 7 ..... Violet  
 8 ..... Grey  
 9 ..... White  
 0 ..... Black  
 D ..... Pink

Fig. 4-1



## 5 Block Diagram

1

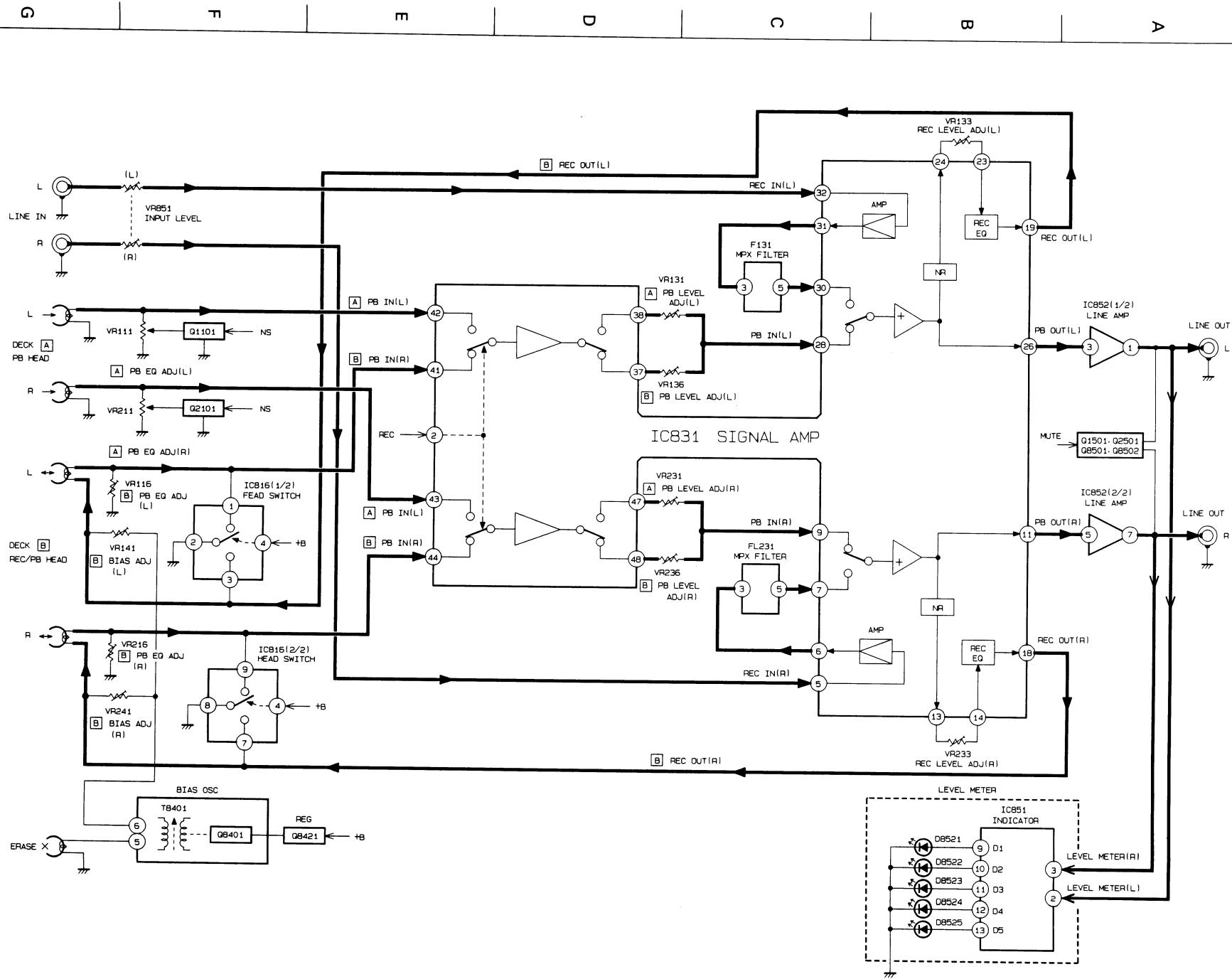
2

3

4

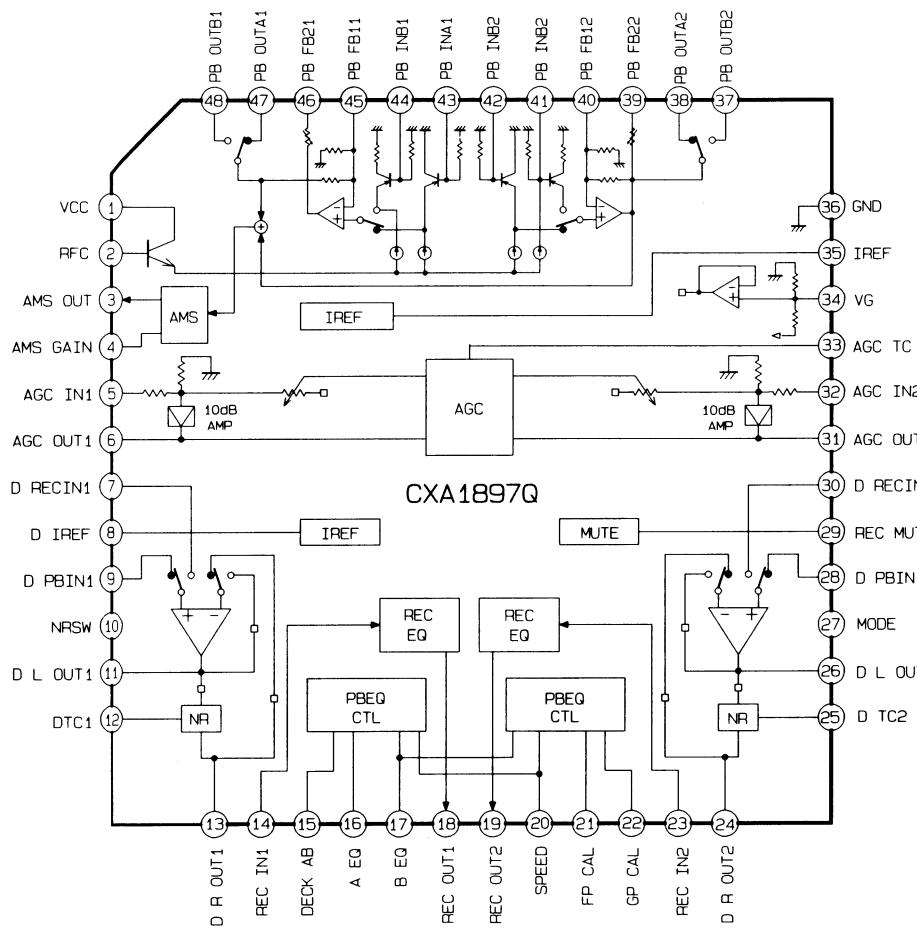
5

18 (NO. 4360)

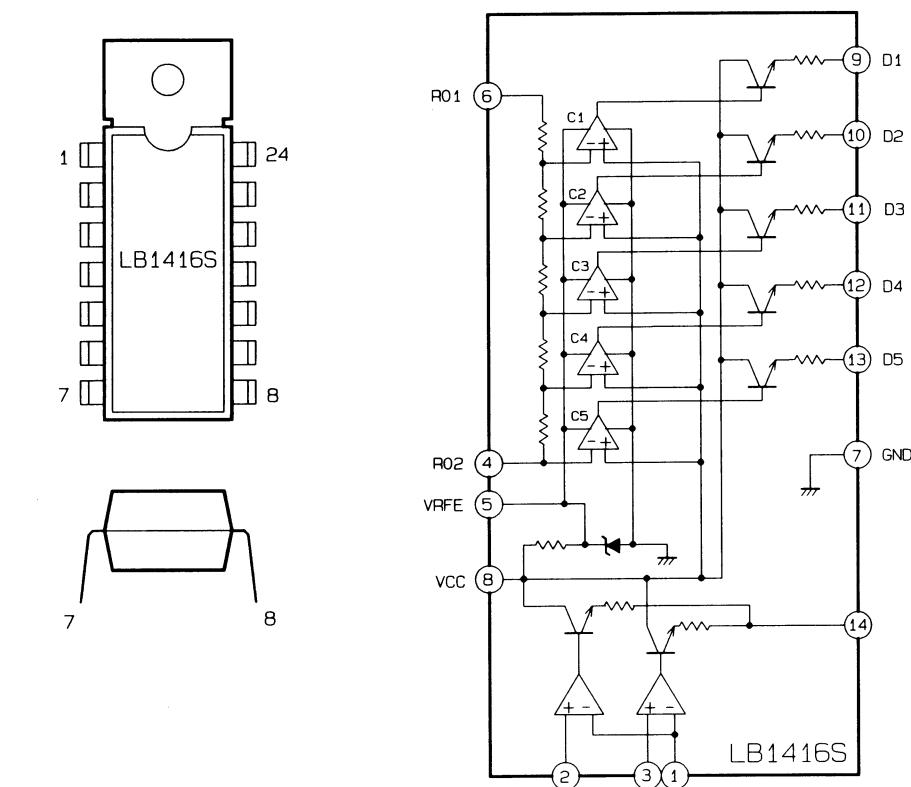
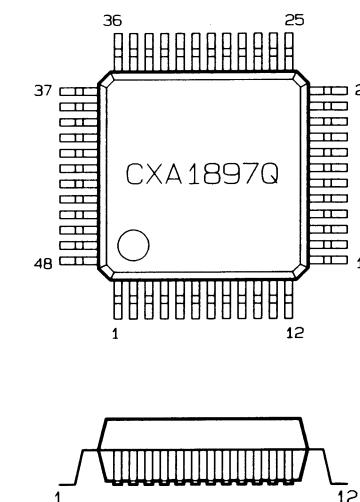


## 6 IC Block Diagrams

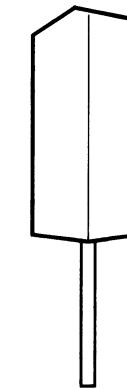
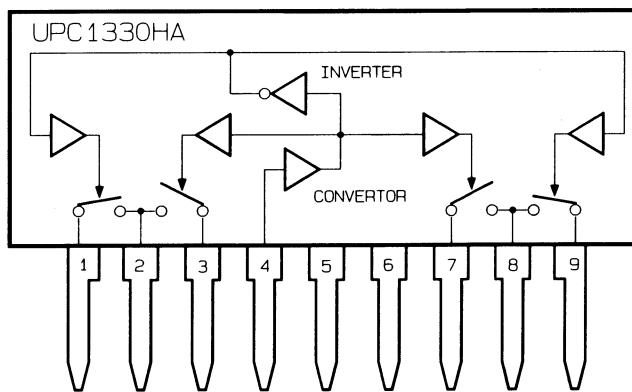
### ■ IC831 (CXA1897Q) REC/PB AMP and Dolby NR



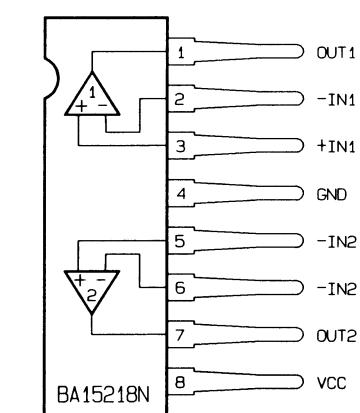
### ■ IC851 (LB1416S) Level Meter LED Control Micon



### ■ IC816 (UPC1330HA) B REC/PB Switch



### ■ IC852 (BA15218N) Line Amp



## 7 Standard Schematic Diagrams

1 2 3 4 5 6 7 8 9 10

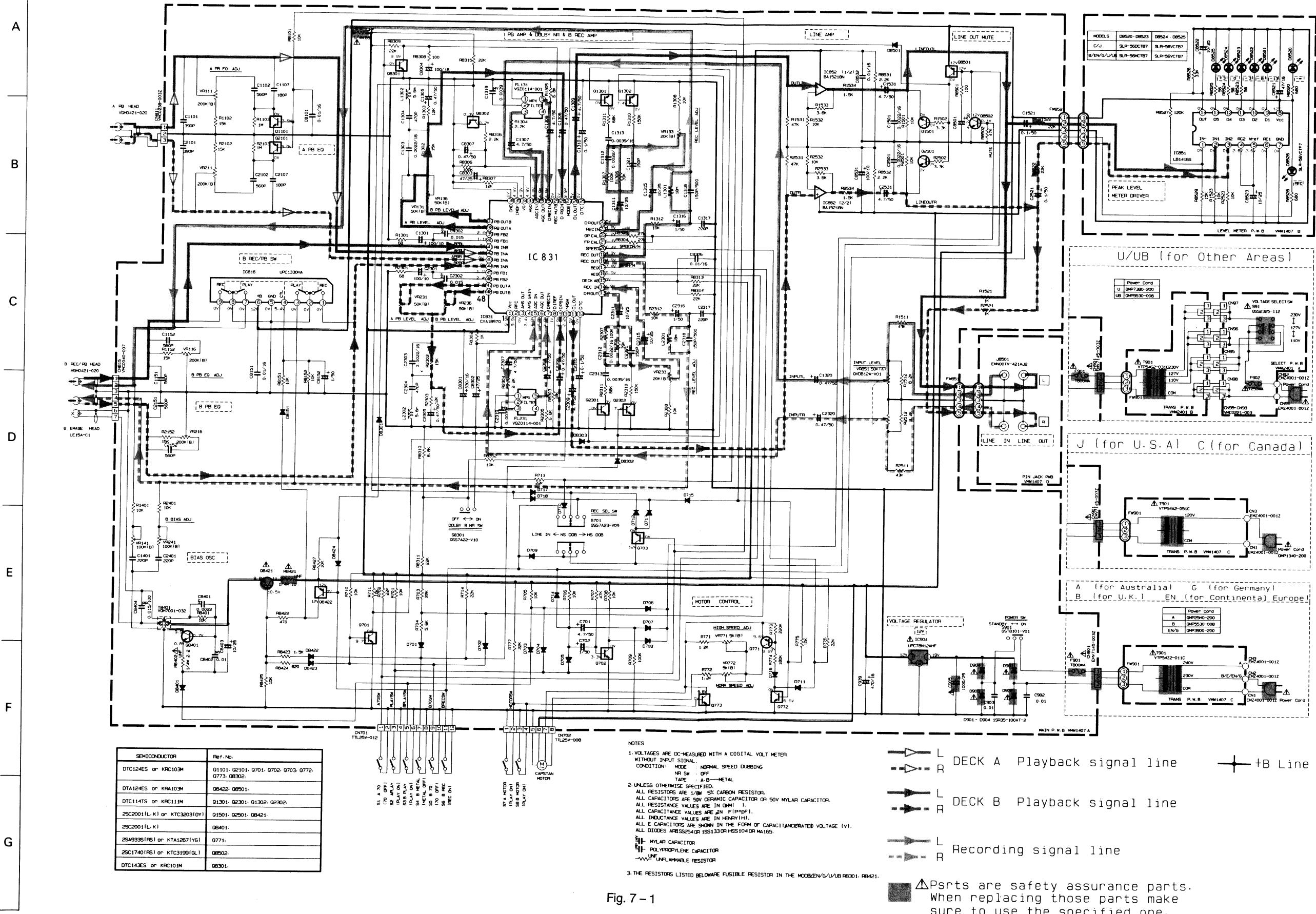
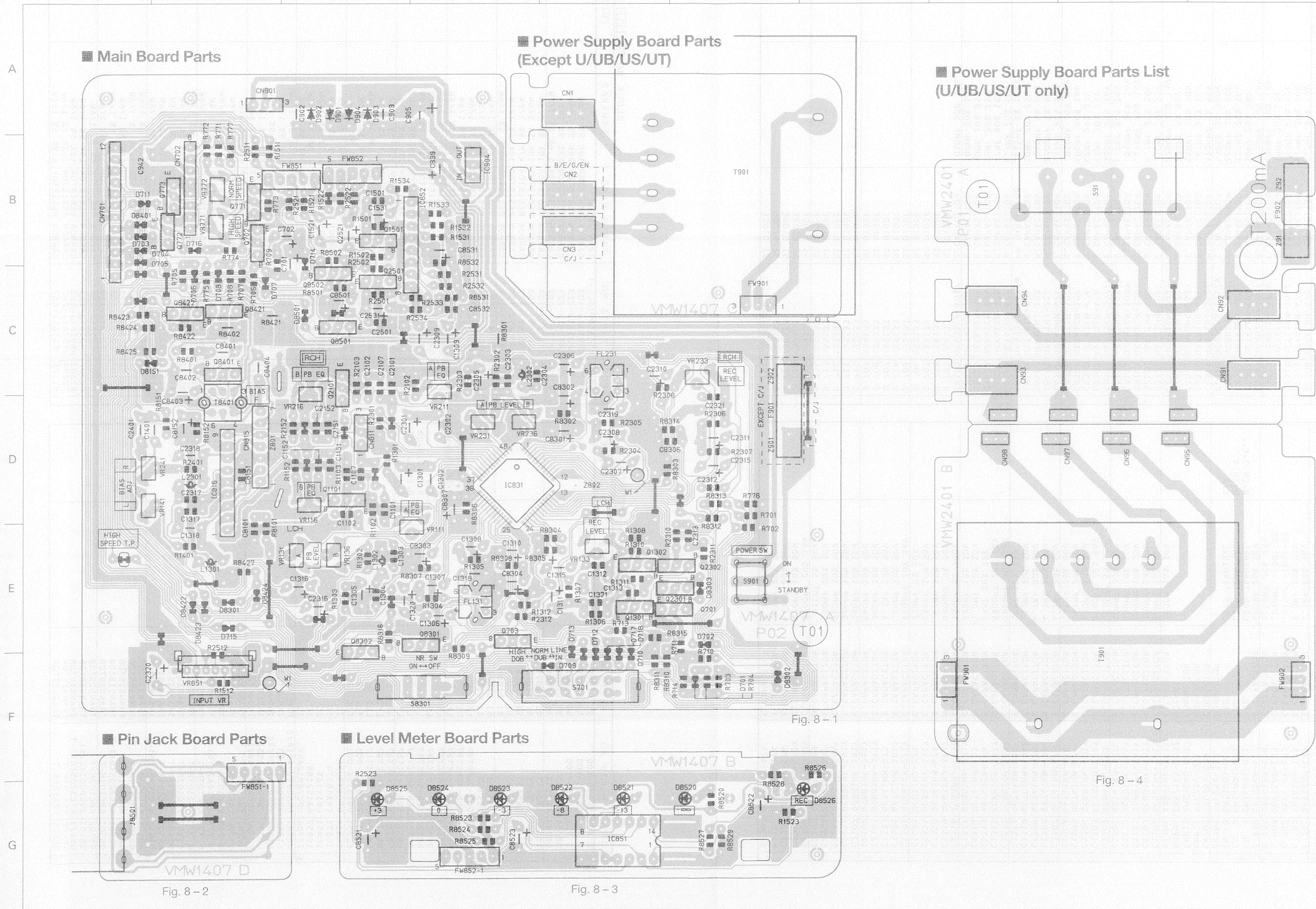


Fig. 7-1

## 8 Location of P.C. Board and Parts List

1 2 3 4 5 6 7 8 9 10



## ● Parts List

BLOCK NO. 01				
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 701	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C 702	QET41HM-105	E CAPACITOR	1.0MF 20% 50V	
C 902	QCF11HP-103	C.CAPACITOR	.010MF +100%-0%	
C 903	QCF11HP-103	C.CAPACITOR	.010MF +100%-0%	
C 905	QET41EM-108	E.CAPACITOR	1000MF 20% 25V	
A 939	QET41CM-477	E CAPACITOR	470MF 20% 16V	
CN 1	EMZ4001-001	TAB	LEAD TERMINAL	B,EN,G,C,J
CN 2	EMZ4001-001	TAB	LEAD TERMINAL	B,EN,G
CN 3	EMZ4001-001	TAB	LEAD TERMINAL	C,J
CN701	TTL25V-012	CONNECTOR		
CN702	TTL25V-008	CONNECTOR		
CN811	TTL25V-003	CONNECTOR		
CN815	VMC0040-007	CONNECTOR		
CN901	EMV7145-0032	SOCKET		
C1101	QCB81HK-391Y	C.CAPACITOR	390PF 10% 50V	
C1102	QCB81HK-561Y	C.CAPACITOR	560PF 10% 50V	
C1107	QCB81HK-181Y	C.CAPACITOR	180PF 10% 50V	
C1151	QCB81HK-561Y	C.CAPACITOR	560PF 10% 50V	
C1152	QCB81HK-561Y	C.CAPACITOR	560PF 10% 50V	
C1301	QET41AM-107	E CAPACITOR	100MF 20% 10V	
C1302	QFN41HJ-153	M.CAPACITOR	.015MF 5% 50V	
C1303	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
C1304	QCB81HK-471Y	C.CAPACITOR	470PF 10% 50V	
C1305	QET41HM-474	E CAPACITOR	.47MF 20% 50V	
C1306	QET41HM-474	E CAPACITOR	.47MF 20% 50V	
C1307	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C1308	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C1309	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C1310	QETC1HM-104Z	E CAPACITOR	.10MF 20% 50V	
C1311	QET41EM-106	E CAPACITOR	10MF 20% 25V	
C1312	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
C1313	QCXB1CM-392Y	C.CAPACITOR	3900PF 20% 16V	
C1315	QET41EM-106	E CAPACITOR	10MF 20% 25V	
C1316	QET41HM-105	E CAPACITOR	.10MF 20% 50V	
C1317	QCB81HK-221Y	C.CAPACITOR	220PF 10% 50V	
C1318	QCS32HJ-151ZV	C.CAPACITOR	150PF 5% 500V	
C1319	QFN31HJ-392Z	M.CAPACITOR	3900PF 5% 50V	
C1320	QET41HM-474	E CAPACITOR	.47MF 20% 50V	
C1321	QCB81HK-151Y	C.CAPACITOR	150PF 10% 50V	
C1401	QCS11HJ-221	C.CAPACITOR	220PF 5% 50V	
C1504	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
C1521	QETC1HM-104Z	E CAPACITOR	.10MF 20% 50V	
C1531	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C2101	QCB81HK-391Y	C.CAPACITOR	390PF 10% 50V	
C2102	QCB81HK-561Y	C.CAPACITOR	560PF 10% 50V	
C2107	QCB81HK-181Y	C.CAPACITOR	180PF 10% 50V	
C2151	QCB81HK-561Y	C.CAPACITOR	560PF 10% 50V	
C2152	QCB81HK-561Y	C.CAPACITOR	560PF 10% 50V	
C2301	QET41AM-107	E CAPACITOR	100MF 20% 10V	
C2302	QFN41HJ-153	M.CAPACITOR	.015MF 5% 50V	
C2303	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
C2304	QCB81HK-471Y	C.CAPACITOR	470PF 10% 50V	
C2305	QET41HM-474	E CAPACITOR	.47MF 20% 50V	
C2306	QET41HM-474	E CAPACITOR	.47MF 20% 50V	
C2307	QET41HM-475	E CAPACITOR	.47MF 20% 50V	

BLOCK NO. 01				
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C2308	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C2309	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C2310	QETC1HM-104Z	E CAPACITOR	.10MF 20% 50V	
C2311	QET41EM-106	E CAPACITOR	10MF 20% 25V	
C2312	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
C2313	QCXB1CM-392Y	C.CAPACITOR	3900PF 20% 16V	
C2315	QET41EM-106	E CAPACITOR	10MF 20% 25V	
C2316	QET41HM-105	E CAPACITOR	.10MF 20% 50V	
C2321	QCB81HK-221Y	C.CAPACITOR	220PF 10% 50V	
C2318	QCS32HJ-151ZV	C.CAPACITOR	150PF 5% 500V	
C2319	QFN31HJ-392Z	M.CAPACITOR	3900PF 5% 50V	
C2320	QET41HM-474	E CAPACITOR	.47MF 20% 50V	
C2321	QCB81HK-151Y	C.CAPACITOR	150PF 10% 50V	
C2401	QCS11HJ-221	C.CAPACITOR	220PF 5% 50V	
C2501	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
C2521	QETC1HM-104Z	E CAPACITOR	.10MF 20% 50V	
C2531	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C8101	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
C8151	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
C8152	QET41HM-105	E CAPACITOR	.10MF 20% 50V	
C8301	QETC1CM-337ZM	E CAPACITOR	.330MF 20% 16V	
C8302	QET41EM-476	E CAPACITOR	.47MF 20% 25V	
C8303	QET41EM-476	E CAPACITOR	.47MF 20% 25V	
C8304	QET41CM-107	E CAPACITOR	.10MF 20% 16V	
C8306	QFG32AJ-153ZM	PP CAPACITOR	.015MF 5% 100V	
C8501	QET41HM-475	E CAPACITOR	.47MF 20% 50V	
C8521	QEK41CM-476	E.CAPACITOR	.47MF 20% 16V	
C8522	QEK41EM-106	E.CAPACITOR	10MF 20% 25V	
C8523	QEK41EM-106	E.CAPACITOR	10MF 20% 25V	
C8531	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
C8532	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
D 701	ISS1S33	SI DIODE		
D 702	ISS1S33	SI DIODE		
D 703	ISS1S33	SI DIODE		
D 704	ISS1S33	SI DIODE		
D 705	ISS1S33	SI DIODE		
D 706	ISS1S33	SI DIODE		
D 707	ISS1S33	SI DIODE		
D 708	ISS1S33	SI DIODE		
D 709	ISS1S33	SI DIODE		
D 710	ISS1S33	SI DIODE		
D 711	ISS1S33	SI DIODE		
D 712	ISS1S33	SI DIODE		
D 713	ISS1S33	SI DIODE		
D 714	ISS1S33	SI DIODE		
D 715	ISS1S33	SI DIODE		
D 716	ISS1S33	SI DIODE		
D 717	ISS1S33	SI DIODE		
D 718	ISS1S33	SI DIODE		
D 901	1SR35-100	SI DIODE		

BLOCK NO. 01				
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
D 902	1SR35-100	SI DIODE		
D 903	1SR35-100	SI DIODE		
D 904	1SR35-100	SI DIODE		
D8151	ISS1S33	SI DIODE		
D8301	ISS1S33	SI DIODE		
D8302	ISS1S33	SI DIODE		
D8303	ISS1S33	SI DIODE		
D8401	ISS1S33	SI DIODE		
D8422	ISS1S33	SI DIODE		
D8423	ISS1S33	SI DIODE		
D8424	ISS1S33	SI DIODE		
D8501	ISS1S33	SI DIODE		
D8520	SLR-56DCTB7	LED		
D8520	SLR-56MCTB7	LED		
D8521	SLR-56MCTB7	LED		
D8521	SLR-56DCTB7	LED		
D8521	SLR-56VCTB7	LED	0	
D8525	SLR-56VCTB7	LED	3	
D8526	SLR-56VCTF7	LED	REC	
FL131	VQZ0114-001	FILTER		
FL231	VQZ0114-001	FILTER		
IC816	UPC1330HA	IC		
IC831	CXA1897Q	IC		
IC851	LB1416S	IC		
IC852	BA15218N	IC		
IC904	UPC78M12AHF	IC		
J8501	EMN00TV-421AJ2	PIN JACK	</	

BLOCK NO. 01

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R2306	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
R2307	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R2308	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R2310	QRD161J-154	CARBON RESISTOR	150K 5% 1/6W	
R2311	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
R2312	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R2401	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R2501	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R2502	QRD161J-332	CARBON RESISTOR	3.3K 5% 1/6W	
R2511	QRD161J-433	CARBON RESISTOR	43K 5% 1/6W	
R2512	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
R2521	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R2522	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R2523	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R2531	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
R2532	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R2533	QRD161J-362	CARBON RESISTOR	3.6K 5% 1/6W	
R2534	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
R8101	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R8151	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R8152	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R8301	QRZ0077-680	FUS. RESISTOR	68 1/4W	B,EN,G,U,UB
R8301	QRD14CJ-680SX	UNF.C. RESISTOR	68 1/4W	C,J
R8302	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R8303	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
R8304	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
R8305	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
R8306	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R8307	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
R8308	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
R8309	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R8310	QRD161J-682	CARBON RESISTOR	6.8K 5% 1/6W	
R8311	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R8312	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R8313	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R8314	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R8315	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R8316	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R8401	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R8402	QRD14CJ-2R2SX	CARBON RESISTOR	2.2 5% 1/4W	
R8421	QRZ0077-100X	FUSE RESISTOR	10 1/4W	B,EN,G,U,UB
R8421	QRD14CJ-100SX	UNF.C. RESISTOR	10 1/4W	C,J
R8422	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
R8423	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
R8424	QRD161J-821	CARBON RESISTOR	820 5% 1/6W	
R8425	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
R8427	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R8501	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
R8502	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
R8520	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
R8523	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
R8524	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
R8525	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
R8526	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
R8527	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R8528	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
R8529	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
R8531	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R8532	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
S 701	QSS7A23-V09	SLIDE SWITCH		
S 901	QST8101-V01	PUSH SWITCH		
S8301	QSS7A22-V10	SLIDE SWITCH		
T8401	VQH7001-032	OSC COIL(BIAS)		
VR111	QVPA601-204A	V.RESISTOR		
VR116	QVPA601-204A	V.RESISTOR		
VR131	QVPA601-503A	V.RESISTOR		
VR133	QVPA601-203A	V.RESISTOR		
VR136	QVPA601-503A	V.RESISTOR		
VR141	QVPA601-104A	V.RESISTOR		
VR211	QVPA601-204A	V.RESISTOR		
VR216	QVPA601-204A	V.RESISTOR		
VR231	QVPA601-503A	V.RESISTOR		
VR233	QVPA601-203A	V.RESISTOR		
VR236	QVPA601-503A	V.RESISTOR		
VR241	QVPA601-104A	V.RESISTOR		
VR771	QVPE612-502ZM	SEMI.V.RESISTOR		
VR772	QVPE612-502ZM	SEMI.V.RESISTOR		
VR851	QVDB12A-V01	V RESISTOR		
Z 801	VMA4142-001	SHIELD PLATE(B)		
Z 901	VMZ0125-001Z	FUSE CLIP	FOR F901	B,EN,G,U,UB
Z 902	VMZ0125-001Z	FUSE CLIP	FOR F901	B,EN,G,U,UB

● Power Supply Board Parts List  
(U/UB/US/UT only)

BLOCK NO. 02

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
CN 91	EMZ4001-001	TAB	FOR POWER CORD	U,UB
CN 92	EMZ4001-001	TAB	FOR POWER CORD	U,UB
CN 95	VMC0221-003	CONNECTOR		U,UB
CN 96	AMC0221-003	CONNECTOR		U,UB
CN 97	VMC0221-003	CONNECTOR		U,UB
CN 98	VMC0221-003	CONNECTOR		U,UB
S 91	QSS2325-112	SLIDE SWITCH	VOLTAGE SELECT	U,UB
Z 91	VMZ0125-112	FUSE CLIP	FOR F902	U,UB
Z 92	VMZ0125-001Z	FUSE CLIP	FOR F902	U,UB

## 9 Exploded View of Enclosure Component Parts and Parts List

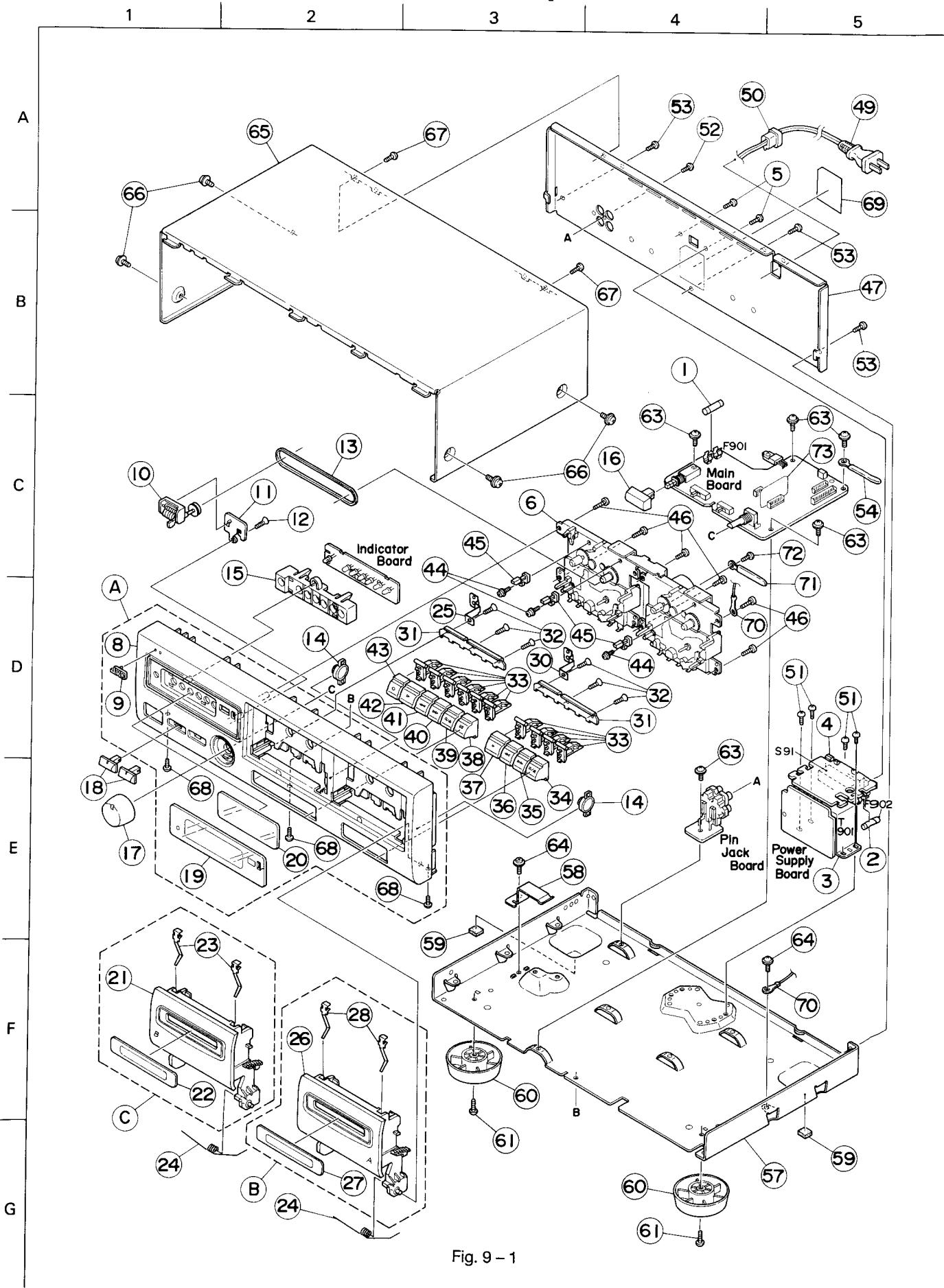


Fig. 9-1

## ● Enclosure Component Parts List

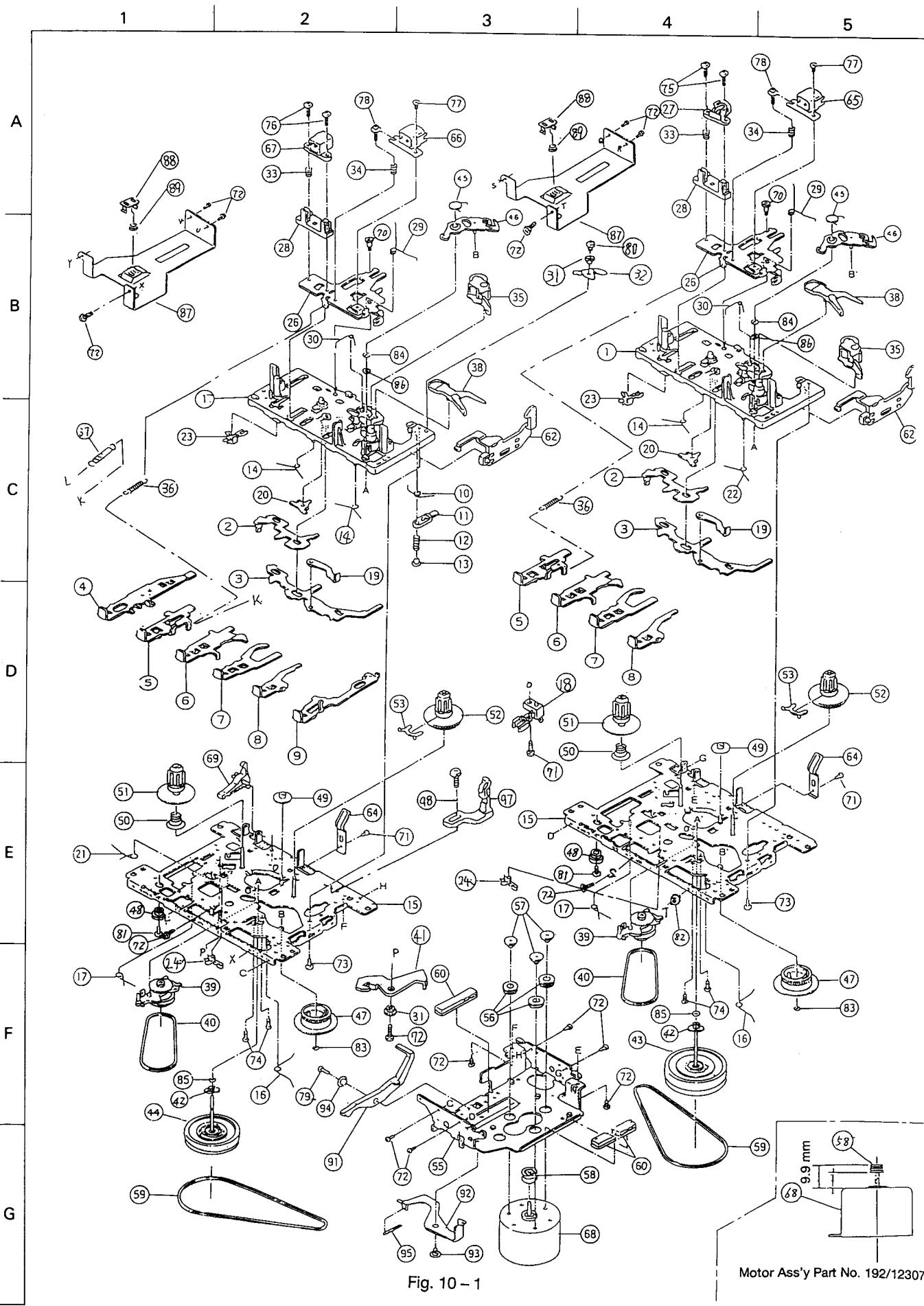
BLOCK NO. M1MM

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
A	ZCTDW118K-FB	FRONT PANEL ASS	NO.8-9,19-20	1		
	ZCTDW118J-FB	FRONT PANEL	NO.8-9,19-20	1	C,J	
B	ZCTDW118K-CH-A	CASSETTE HOLDER	NO.26-28	1		
C	ZCTDW118K-CH-B	CASSETTE HOLDER	NO.21-23	1		
1	QMF51E2-R80SBS	FUSE	F901	1	B,C,EN,G	
2	QMF51E2-R80SBS	FUSE	F901	1	J,U,UB	
3	QMF51E2-R20SBS	FUSE	F902	1	U,UB	
4	VTP54G2-031C	POWER TRANS	T901	1	U,UB	
5	VTP54Z2-011C	POWER TRANS	T901	1	B,EN,G	
6	VTP54A2-051C	POWER TRANS	T901	1	C,J	
7	VKS5011-001	VOLTAGE CONTACT		1	U,UB	
8	SBSF3008M	SCREW		2	U,UB	
9	-----	CASSETTE MECHA.		1		
10	VJG1393-003	FRONT PANEL	V.SELECTOR	1	B,EN,G,U,UB	
11	VJG1393-004UL	FRONT PANEL		1	C,J	
12	E72968-001	JVC MARK		1		
13	VKC5190-101T	TAPE COUNTER		1		
14	VKL5900-001	COUNTER BRACKET		1		
15	GBSF2608Z	SCREW	COUNTER BRAKET	2		
16	VKB3000-168	BELT	COUNTER	1		
17	VYH7779-00B	DUMPER ASSY		2		
18	VYH3917-001	LED HOLDER		1		
19	VXP5327-002	POWER KNOB		1		
20	VXL4445-002	VOLUME KNOB		1		
21	VXS4409-002	SLIDE KNOB	INPUT LEVEL	1		
22	VJK3682-001	LENS (A)	NR/B TAPE SELEC	2		
23	VJK3683-001	LENS (B)		1		
24	VJT2368-001	CASSETTE HOLDER	OUT SIDE	1		
25	VJK4475-001	CASS LENS	IN SIDE	1		
26	VKY4180-002	CASSETTE SPRING	DECK:A	1		
27	VJK4475-001		DECK:A	1		
28	VJK4475-001		DECK:A	2		
29	VK5223-001	SPRING	DECK:B	1		
30	VK5223-001	SPRING	FOR MECHA	1		
31	VKL7820-001	EARTH	DECK:B	1		
32	VJT2368-002	CASSETTE HOLDER	FOR MECHA	1		
33	VJK4475-001	CASS LENS	DECK:B	1		
34	VJK4180-002	CASSETTE SPRING	DECK:B	2		
35	VKL7820-001	EARTH	FOR MECHA	1		
36	VKL7193-002	BUTTON BRACKET	DECK:B	2		
37	SSSF2608Z	SCREW	FOR BUTTON BRAC	6		
38	VKS4843-002J	BUTTON LEVER		10		
39	VXP3762-001	MECHA BUTTON	DECKA REC	1		
40	VXP3762-002	MECHA BUTTON	DECKA PLAY	1		
41	VXP3762-003	MECHA BUTTON	DECKA REW	1		
42	VXP3762-004	MECHA BUTTON	DECKA FF	1		
43	VXP3762-005	MECHA BUTTON	FOR STOP/EJECT	1		
44	VXP3762-006	MECHA BUTTON	DECKA PAUSE	1		
45	VXP3762-007	MECHA BUTTON	DECKB FF	1		
46	VXP3762-008	MECHA BUTTON	DECKB REW	1		
47	VXP3762-009	MECHA BUTTON	DECKB PLAY	1		
48	VXP3762-010	MECHA BUTTON	DECKB REC	1		
49	96610000T	SCREW	FOR LEAF SWITCH	3		
50	640101125T	LEAF SWITCH		3		
51	SDSF3010Z	SCREW	F.PANEL+MECHA	6		
52	VJC2558-003	REAR PANEL		1	B,C,EN,G,J	
53	VJC2558-004	REAR PANEL		1	U,UB	

BLOCK NO. M1MM

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
48	VND4999-001	FCC LABEL (3)		1	J	
49	QMP3900-200	POWER CORD		1	EN,G	
50	QMP7380-200	POWER CORD		1	U	
51	QMP1340-200	POWER CORD		1	C,J	
52	QMP5530-008BS	POWER CORD		1	B,UB	
53	QHS3771-108	CORD STOPPER		1		
54	SBST3006Z	SCREW	FOR POWER TRANS	4		
55	SBSF3008M	SCREW	FOR JACK	1		
56	SBST3006M	SCREW	FOR REAR+CHASSI	3		
57	VKL4001-110	WIRE CLAMP		1		
58	VKL1434-001	CHASSIS BASE		1		
59	VKL7831-001	IC BRACKET		1		
60	VJF4053-001	FELT SPACER		2		
61	E47227-037	FOOT ASS'Y		2	J	
62	E406379-008SS	FOOT ASS'Y	EXSEPT J VERSIO	2		
63	SBST3008Z	SCREW	BOTTOM (FRONT)	2		
64	GBST3006Z	SCREW	FOR IC904	1		
65	GBST3006Z	SCREW	FOR MAIN PWB	4		
66	GBST3006Z	SCREW	FOR PIN JACK PW	1		
67	GBST3006Z	SCREW	FOR LUG WIRE	1		
68	VKL1435-002S	TOP COVER		1		
69	VKL4614-001	SPECIAL SCREW	FOR TOP COVER	4		
70	SBST3006M	SCREW	FOR TOP COVER	2		
71	SBST3006M	SCREW	FOR TOP COVER	3		
72	VYN2353-C007PA	NAME PLATE		1	U	
73	VYN2353-C006PA	NAME PLATE		1	J	
74	VYN2353-C019PA	NAME PLATE		1	UB	
75	VYN2353-C104PA	NAME PLATE		1	C	
76	VYN2353-C802PA	NAME PLATE		1	B	
77	VYN2353-C808PA	NAME PLATE		1	G	
78	VYN2353-C805PA	NAME PLATE		1	EN	

## 10 Exploded View of Mechanism Component Parts and Parts List



### ● Mechanism component parts list

A	REF.	PARTS NO.	PARTS NAME	REMARKS	BLOCK NO. M2MM		
					QTY	SUFFIX	CLR
	1	192114317T	BASE ASS'Y		2		
	2	19211409T	SWITCH ACTUATOR		2		
	3	19211438T	PUSH B. ACTUATOR		2		
	4	19211422T	BUTTON LEVER	REC	1		
	5	19211484T	BUTTON LEVER	PLAY	2		
	6	19211424T	BUTTON LEVER	REW	2		
	7	19211425T	BUTTON LEVER	FF	2		
	8	19211426T	BUTTON LEVER	STOP	2		
	9	19211461T	BUTTON LEVER	PAUSE	1		
	10	19211413T	P CONT. SPRING		1		
	11	19211455T	PAUSE LEVER (E)		1		
	12	19211412T	SPRING		1		
	13	19211411T	PAUSE STOPPER		1		
	14	19211414T	TORSION SPRING		3		
	15	192101501ZT	CHASSIS ASS'Y		2		
	16	19211416T	TORSION SPRING		2		
	17	19211417T	TORSION SPRING		2		
	18	64010138T	LEAF SWITCH	MSW-1275	1		
	19	182101159T	E.KICK LEVER		2		
	20	19211420T	STOPPER		2		
	21	19211449T	LEVER SPRING		1		
	22	19211433T	TORSION SPRING		1		
	23	MSW-1541T	LEAF SWITCH	MSW-17820MVDO	2		
	24	640101161T	LEAF SWITCH		2		
	26	19210325T	HEAD PANEL		2		
	27	18210328T	DUMMY HEAD		1		
	28	19210324T	HEAD BASE		2		
	29	19210309T	PANEL P SPRING		2		
	30	19211418AT	SPRING		2		
	31	19211437T	P. ARM COLLAR		2		
	32	19211434T	P.ROLLER ARM		1		
	33	18210308T	SPRING		2		
	34	19210326T	AZIMUTH SPRING		2		
	35	192104309T	P.ROLL.ARM ASSY		2		
	36	18210150T	PLAY BUTTON LEV		2		
	37	18211311T	TENSION SPRING		1		
	38	19212604TT	SENSING LEVER		2		
	39	192107308T	RF CLUTCH ASS'Y		2		
	40	18210733T	RF BELT		2		
	41	19210201T	REC ARM		1		
	42	19210910T	FL GEAR		2		
	43	19210930T	FLYWHEEL ASS'Y		1		
	44	19210929T	FLYWHEEL ASS'Y		1		
	45	19212605T	TORSION SPRING		2		
	46	192126502ZT	GEAR PLATE ASSY		2		
	47	19212602T	CAM GEAR		2		
	48	19211489T	BASE COLLER		2		
	49	18211070T	F.FORWARD GEAR		2		
	50	18211064T	SPRING		2		
	51	192105304T	S. REEL ASS'Y		2		
	52	192105303T	T. REEL ASS'Y		2		
	53	19210506T	SENSOR		2		
	55	19211247T	MOTOR BRACKET		1		
	56	18211266T	MOTOR RUBBER		3		

BLOCK NO. M2MM

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
57	18511418T	COLLAR SCREW		3		
58	19211205AT	MOTOR PULLEY		1		
59	19210923T	MAIN BELT		2		
60	19211212T	MAT		2		
62	19211302T	EJ. SLIDE LEVER		2		
64	18291001T	PACK SPRING		2		
65	VGH0421-021	R/P HEAD	283-30-69	2		
67	LE15A-C1	E. HEAD		1		
68	60030341T	MOTOR	SHU-2L03	1		
69	18211069T	REC SAFETY LEVE		1		
70	19211490T	COLLER SCREW(V)		2		
71	91810000T	SCREW		1		
72	91800000T	SCREW		11		
73	95790000T	TAP. SCREW		2		
74	99991809T	SPECIAL SCREW		4		
75	98210000T	SPECIAL SCREW		2		
76	92230000T	SCREW		2		
77	91150000T	SCREW(M2 X 3)		2		
78	99220000T	SCREW(M2 X 7)		2		
79	9P0420061T	SCREW		1		
80	99992041T	SPECIAL SCREW		1		
81	96740000T	TAPPING SCREW		2		
82	93240000T	WASHER		1		
83	94220000T	P.WASHER		2		
84	99997001T	POLY.CUT WASHER		2		
85	98820000T	POLY.WASHER		2		
86	94230000T	P WASHER		2		
87	18210934T	FL RETAINER(A)		2		
88	18201302T	FL.THRUST PLATE		2		
89	18201310T	THRUST SPRING		2		
91	19211209T	P.KICK LEVER(B)		1		
92	18211268T	P.KICK LEVER		1		
93	18211223T	COLLAR SCREW		1		
94	18211265T	COLLAR (B)		1		
95	18211312T	SPRING		1		
97	640101125T	LEAF SWITCH		1		
98	96610000T	TH.TAP.SCREW		1		

## 11 Packing Illustration and Parts List

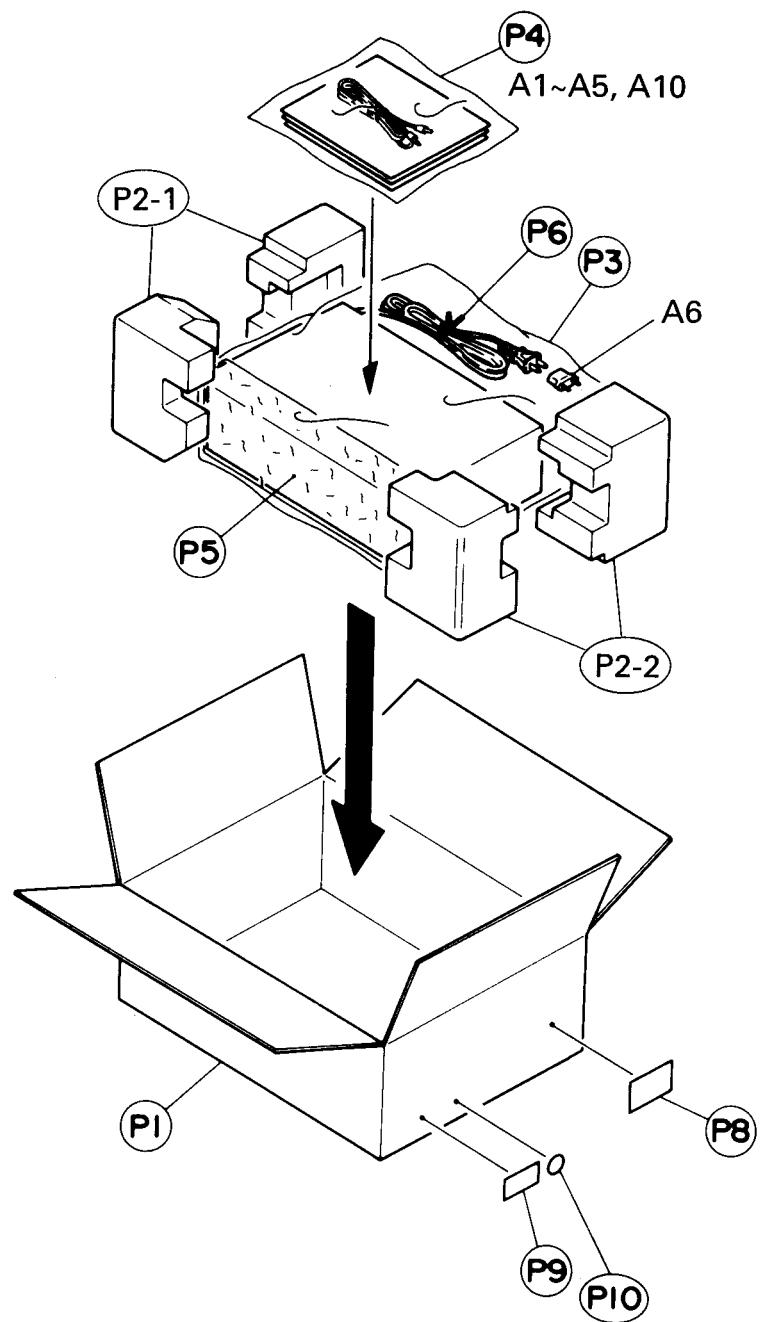


Fig. 11 - 1

● Packing parts list

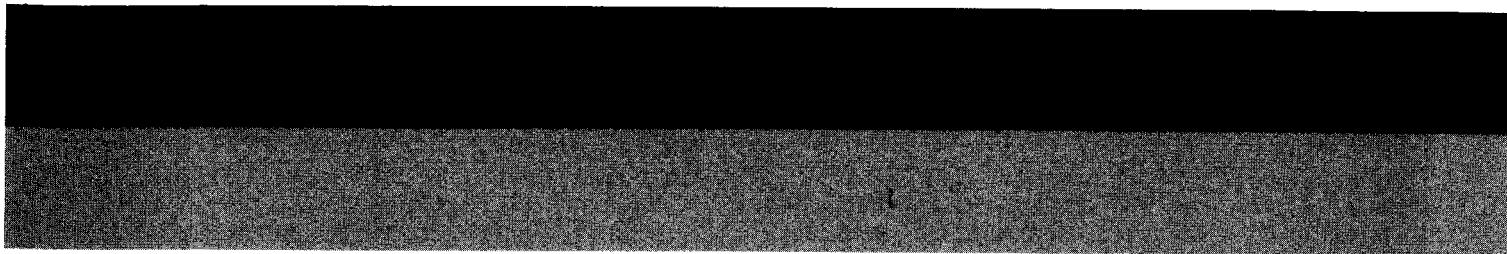
BLOCK NO. M3MM □□□

▲	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	VPC2353-C002	CARTON		1		
	P 2-1	VPH2479-001	CUSHION(L)		1		
	P 2-2	VPH2479-002	CUSHION(R)		1		
	P 3	E300196-031B	ENVELOPE	FOR SET	1		
	P 4	VPE3005-007	POLY BAG	ACSESSORES	1		
	P 5	VPK3001-012	SHEET	FOR FRONT PROTE	1		
	P 6	Q04141H	WIRE CLAMP	FOR POWER CORD	1		
	P 8	-----	SIRIAL TICKET		1		
	P 9	-----	EAN CODE LABEL		1		
	P10	QZLA001-011	MARK		1	EN,G	

● Accessories list

BLOCK NO. M3MM □□□

▲	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	VMP0088-001J	PIN CORD		1		
	A 2	VNN2352-121C	INSTRUCTIONS		1	B,U	
		VNN2352-661C	INSTRUCTIONS		1	C,EN,G,U,UB	
	A 3	VNN2352-671C	INSTRUCTIONS		1	B,J	
		BT-20134	WARRANTY CARD		1	G	
		BT-20047F	WARRANTY CARD		1	J	
		BT-20066A	WARRANTY CARD		1	B	
		BT-52002-1	WARRANTY CARD		1	C	
		BT-54003-1	WARRANTY CARD		1	B	
	A 4	E43486-340A	SAFETY I.SHEET		1	B	
		BT-20044G	SAFETY INST.		1	J	
	A 5	BT-20071B	SVC CENTER LIST		1	C	
		BT-20137	SERVICE NETWORK		1	J	
	A 6	VO4062-001	AC PLUG		1	U,UB	
	A 10	VND4247-005	VOLTAGE LABEL		1	U,UB	



**JVC**

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